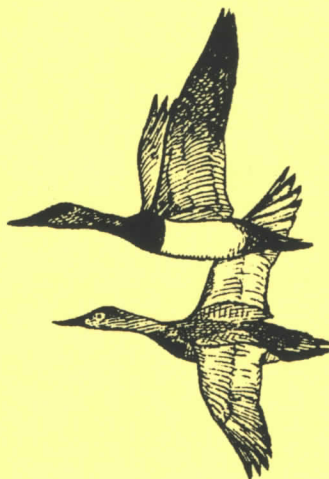


***FINAL***  
**Environmental Assessment  
and Land Protection Plan  
Proposal to Expand the Boundary  
of the  
Edwin B. Forsythe  
National Wildlife Refuge**



Ocean County, New Jersey



U.S. DEPARTMENT OF THE INTERIOR  
Fish and Wildlife Service  
300 Westgate Center Drive  
Hadley, MA 01035



1994





# United States Department of the Interior

## FISH AND WILDLIFE SERVICE

300 Westgate Center Drive  
Hadley, MA 01035-9589

TAKE  
PRIDE IN  
AMERICA

In Reply Refer To:  
FWS/R-5/RE

FEB - 1 1994

Dear Reader:

The U.S. Fish and Wildlife Service (Service) is pleased to provide you with a copy of the Final Environmental Assessment for the expansion of the Edwin B. Forsythe National Wildlife Refuge in Ocean County, New Jersey. The assessment outlines the action proposed by the Service to preserve, protect, and manage approximately 7,730 acres of land along the western shore of Barnegat Bay in the towns of Dover, Berkeley, Lacey, Ocean and Stafford. The enclosed Land Protection Plan provides landowners with important information regarding the relationship of their individual properties to the expansion areas, and the relative priority that the Service places on acquiring individual parcels.

The proposal was developed by the Service at the request of and with extensive public input by citizens, elected officials, government agencies, and interested organizations. A Draft Environmental Assessment was released for public review in September 1992. Public information meetings were held on October 5, 1992 in Lacey, and October 20 and November 5, 1992 in Stafford. As a result of these meetings additional lands in the immediate vicinity of the Middle Branch of the Forked River, the State Game Farm, and Manahawkin Lake have been incorporated into this proposal. In response to concerns raised at the meetings, additional discussions involving public access and hunting are also included. The Service believes that the Proposed Action will allow protection of important habitat for migratory birds and provide for the public enjoyment of these resources through managed wildlife oriented use programs.

Additional copies of this Environmental Assessment and Land Protection Plan can be obtained free of charge by writing to: U.S. Fish and Wildlife Service, 300 Westgate Center Drive, Hadley, Massachusetts 01035, or the Edwin B. Forsythe National Wildlife Refuge, P.O. Box 72, Great Creek Road, Oceanville, New Jersey 08231.

For further assistance please contact Mr. Gib Chase, Wildlife Biologist at 413-253-8525.

Sincerely,

*Cathy Short*

ACTING Regional Director

Enclosure



## FINDING OF NO SIGNIFICANT IMPACT

### PROPOSED ADDITIONS AND BOUNDARY EXPANSION OF THE EDWIN B. FORSYTHE NATIONAL WILDLIFE REFUGE OCEAN COUNTY, NEW JERSEY

This Final Environmental Assessment (EA) has been prepared to describe and evaluate the proposed boundary expansion of the Edwin B. Forsythe National Wildlife Refuge (Refuge) on the basis of possible biological and socioeconomic impacts. The EA presents and evaluates five alternatives, including "No Action". Issues and concerns identified through the resource analysis and public involvement process formed the basis for the initiation and evaluation of this proposal.

The Draft EA was issued for public review on September 8, 1992 and distributed to local and state government officials, Congressional representatives, conservation groups, homeowner associations and landowners. Public information meetings on the Draft EA were held October 5, 1992 in Lacey and October 20, 1992 and November 5, 1992 in Stafford Township. The main issues raised at these meetings concerned the expansion of existing hunting areas and public access in general. Local town and county officials, state and regional conservation organizations and citizen groups solicited the Service's assistance in the protection of those land areas considered herein. Support for the boundary expansion was generally high at the public meetings. Few comments or concerns were directed at the acquisition proposal itself. As a result of these meetings additional areas identified and recommended by local interests for Service acquisition, have been incorporated into this report. These are the Middle Branch of the Forked River east of the Garden State Parkway, two areas proposed for development west of Manahawkin Lake and lands surrounding the State Game Farm in Lacey.

The proposed action of expanding the boundary of The Forsythe Refuge by approximately 7,730 acres will provide long term protection to important coastal wetlands, forested freshwater wetland and upland habitat. Purposes of the Refuge and these proposed additions are to protect and enhance waterfowl and other migratory bird habitat, protection and restoration of wetlands, protect habitat for endangered and threatened wildlife, promote and preserve biodiversity, and provide wildlife-oriented recreation and education.

Authority for the Service to undertake such an action is provided by the Migratory Bird Conservation Act of 1929 (16 U.S.C. 715), the Emergency Wetland Resources Act of 1986 (16 U.S.C. 3921), and the North American Wetland Conservation Act of 1989 (16 U.S.C. 4401-4412). Funding would be made available primarily from the Migratory Bird Conservation Fund (Federal Duck Stamps) and the Land and Water Conservation Fund.

Based on the analysis summarized in this Final EA as well as previous EAs on the Addition of Reedy Creek and 1987 Forsythe Boundary Expansion proposal, I have determined that this action is not a major Federal action significantly affecting the quality of the human environment within the meaning of Section 102(2)(c) of the National Environmental Policy Act (NEPA) of 1969. Therefore, an environmental impact statement will not be prepared. This determination was made considering the following factors:



1. Acquisition of lands will be on a willing seller basis. Willing sellers will be compensated for their lands based on the appraised fair market value. Landowners choosing not to sell will retain all the rights, privileges, and obligations of land ownership.

2. Land acquisition resulting from this boundary expansion will not involve the relocation of any person(s).

3. This proposed action will not cause any major alterations in the national environmental quality; degradation of important aesthetic resources or adversely impact a major water supply or energy sources.

4. The project supports the goals of the North American Waterfowl Management Plan and the National Wetlands Priority Conservation Plan.

5. Federal and state listed endangered and threatened species will benefit by the action.

6. No known archaeological or historical resources will be adversely affected but rather these sites/resources would be protected under federal ownership.

7. This proposal complements and supports the Barnegat Bay Management Plan by protecting coastal wetlands and undeveloped areas and thereby reducing the potential for non-point source pollution impacts and maintaining Bay water quality and commercial shellfish resources.

8. Annual payments to the respective townships from the Refuge Revenue Sharing Fund will help offset losses in tax revenues incurred when the Service acquires land. In addition, Town owned lands which may be donated to the Refuge will become eligible for Refuge Revenue Sharing thus generating additional revenue for the township.

9. Economic impacts will be negligible, and the Refuge will add economic diversity and stability to the local area.

10. Areas acquired will remain open, where appropriate, to traditional hunting and fishing activities as long as uses are compatible with the purpose for which the refuge was established. Open space will be preserved.

11. Visitor impacts are expected to be negligible based on experiences at similar refuges in New Jersey. Visitor uses, patterns, and behavior will be taken into account during detailed management planning.

12. The proposed action supports the Ocean County Comprehensive Master Plan, Township Master Plans, the New Jersey Pinelands Comprehensive Management Plan and Managements recommendations for Barnegat Bay.



13. This proposal is comparable to and has been preceded by similar actions taken by the Service whereby lands are acquired for and made part of the National Wildlife Refuge System.

14. This proposal does not represent any change in Service policy or precedent-setting actions having significantly adverse environmental actions of long-term implications.

I have also determined that this proposal is consistent with Executive Orders 12372 entitled "Intergovernmental Review of Federal Programs", 11988 entitled "Floodplain Management", and 11990 entitled "Protection of Wetlands" and conforms to all applicable state and local floodplain protection standards, in that implementation of the proposed action will help maintain and preserve natural and beneficial floodplain and wetland functions and values. This proposal also meets the requirements of the National Historic Preservation Act (P.L. 89-665) and the Archeological Resource Protection Act of 1974 and Secretarial Order 3127, on land acquisition in relation to determinations of contaminants/hazardous substances.

This Finding of No Significant Impact and supporting Final EA and Land Protection Plan will be made available to the public for 30 days from the date below. Copies will be provided to affected landowners, local and county officials and agencies, state resource agencies, conservation organizations, news media, and individuals on the project mailing list. Additional copies are available from the local town clerk's office and the U.S. Fish and Wildlife Service, 300 Westgate Center Drive, Hadley, Massachusetts 01035-9589.

During this 30-day review period the FONSI will not be final, nor will the Service implement the Preferred Alternative. At the end of the 30-day period I will then make a final decision on whether to carry out the Preferred Alternative subject to appropriation of acquisition funding by Congress.

*Cathy Short*  
\_\_\_\_\_  
ACTING Regional Director

\_\_\_\_\_  
Date 1/31/94



PROPOSED ADDITIONS TO THE  
EDWIN B. FORSYTHE NATIONAL WILDLIFE REFUGE  
ENVIRONMENTAL ASSESSMENT

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## SUMMARY

This Final Environmental Assessment (EA) will conclude the planning study on the proposal by the U. S. Fish and Wildlife Service (Service) to acquire additions to expand the boundary of the Edwin B. Forsythe National Wildlife Refuge. Preparation of an environmental assessment for this proposed action is required by the National Environmental Policy Act of 1969. Once acquired, the area would become part of the National Wildlife Refuge System and would be managed according to all applicable Federal Regulations (CFR Title 50).

This EA addresses threats to significant fish and wildlife habitat along the western shore of Barnegat Bay in Ocean County, New Jersey. It outlines alternatives including land acquisition of selected sites by the Service. The Service has undertaken this important effort at the request and encouragement of local officials, congressionals, landowners and conservation organizations because of present and future potential land use changes that will adversely wildlife habitat and water quality of the various watersheds within the study area as well as Barnegat Bay.

This preferred action identifies and recommends the addition of eighteen areas and several sedge islands comprising approximately 8,000 acres. These sites comprise some of the last large tracts of undeveloped land along the bay and consist of vast expanses of salt marsh, hardwood swamps and Atlantic white-cedar swamps. These lands provide essential migration, wintering, nesting and feeding habitat for a variety of waterfowl, shorebirds, wading birds, raptors and neotropical songbird species whose population numbers are declining. These areas also support several state and federal listed threatened and endangered species. Threats to the wildlife communities inhabiting these areas include direct loss of habitat due to filling and/or draining for residential and commercial development, and indirect degradation of their habitat due to sedimentation, erosion, disruption of groundwater hydrology and adverse impacts to water quality.

The lands proposed for acquisition would be acquired under the authorities of the Migratory Bird Conservation Act of 1929, the Fish and Wildlife Act of 1956, Endangered Species Act of 1973, and the Emergency Wetlands Resources Act of 1986. This proposal will also assist in meeting wetland habitat/waterfowl-related goals of the North American Waterfowl Management Plan and the North American Wetlands Conservation Act of 1989. Funding for this project would be obtained from the Land and Water Conservation Fund and Migratory Bird Conservation Fund.

A Draft EA was issued September 4, 1992. Review comments received on the acquisition proposal were very supportive with most parties favoring maximum Service acquisition. As a direct result of the review, several other areas were recommended and an additional 1,400 acres have been incorporated into this proposal. Issues raised in opposition focused on public access to refuge lands. More specifically, some people wanted more lands open to hunting as well as other wildlife oriented activities. Policies and legislation governing land



acquisition, refuge operations and the process of opening refuge lands to consumptive uses were found not to be well understood by the public and not accepted by some individuals. The legal and administrative framework for refuge operations were questioned and in some cases perceived to be merely an extension of state wildlife management areas. Additional information and discussion relevant to public use policies and management have been provided in Chapter 3.

Recreational access to the lands proposed for acquisition is likely to increase under federal ownership as access to private property within the Bay watershed is currently limited. The Service will permit wildlife-oriented public activities that are compatible with our migratory bird objectives. Each site will be evaluated on a case-by-case basis to determine appropriate activities and management plans will be coordinated with the affected public within the respective townships.

Since the lands will remain in a rural or undeveloped state the respective townships will not have to undertake costly capital improvement projects or provide services to these acquisition areas. Under the Refuge Revenue Sharing Program, the municipalities will receive payments, on an annual basis, in lieu of taxes on the existing refuge and the proposed expansion areas. As the refuge expands, payments to the townships will increase.

This proposal by the Service is a major initiative to protect and enhance wildlife habitat in the Barnegat Bay area. The Service recognizes the importance of the Bay area to migratory birds, fisheries and resident wildlife and is, by virtue of this proposal, willing to make a major continuing commitment to the protection effort. The Service will purchase property in accordance with its long-standing record and policy of working with willing sellers. Purchase of property will be made at fair market value. This proposal will not place any additional constraints on landowners located within or adjacent to the proposed expansion areas.

This land protection effort will result in the preservation and enhancement of wildlife habitat for the enjoyment of the public and future generations. The Refuge will continue to work closely with local citizens, community groups and elected officials to inform them of future activities in the areas.



## ENVIRONMENTAL ASSESSMENT

### PROPOSED ADDITIONS TO THE EDWIN B. FORSYTHE NATIONAL WILDLIFE REFUGE

#### CHAPTER I

#### PURPOSE AND NEED FOR THE PROPOSED ACTION

##### 1.0 NEED FOR ACTION

Over half the original wetlands in the United States have been lost. Destruction of wetlands continue today, at a rate of approximately 300,00 acres per year. New Jersey is the most densely populated of our 50 states with ten percent of the U. S. population living within fifty miles of New Brunswick. This dense population has and is creating a high demand for real estate for housing and industry and many municipalities have encouraged wetland drainage and filling by zoning the wetlands as developable lands. Another common pattern of wetland loss is initiated with drainage for agricultural usage. Agricultural land is then exploited for urban, industrial or residential development.

Between 1953 and 1973, Ocean County lost 29.5% of its tidal marsh acreage to wetland filling for houses, roads, industry and sanitary landfills. Wetlands filling and has accelerated since the late 70's through the 1980's. Lagoonal subdivisions in estuarine wetlands often extend into adjacent hardwood swamps. Fragmentation of these wetland and forest ecosystems jeopardize wildlife populations dependent on these large areas. This situation is occurring throughout New Jersey but is very noticeable along Barnegat Bay and other coastal areas in general. The Barnegat Bay System, including the estuary as well as contiguous streams and adjacent wetlands and uplands, provide critical habitat for all types of wildlife. In addition, the Bay system provides nursery areas for many coastal fish populations and supports large recreational and commercial fisheries for fin and shellfish (Kennish and Lutz 1984). The clean bay waters also serve as an important recreational area for swimmers and boaters. These resources comprise the centerpiece of a thriving tourist industry and as such, are critical to the economic, as well as environmental health of southern New Jersey.

Development around the Forsythe Refuge increased dramatically during the decade of the 1980's. With this development the refuge itself is being stressed. The critical edge, that transition zone between wetlands and upland habitat is being destroyed at an alarming rate due to real estate development. Timbering and agriculture drainage are other major activities negatively impacting wetlands in other areas. As the critical edge is destroyed so is much of the breeding habitat, food, cover, and travel corridors for the survival of those species of wildlife that inhabit the coastal zone. As the critical edge disappears and wetlands are fragmented, diversity of habitat is reduced as well as the diversity of wildlife that depend/rely on it.



Further development of the Barnegat Bay shoreline, particularly the freshwater and coastal wetlands, threatens the continued existence of these resources due to the resulting elimination of habitat and degradation of water quality due to non-point sources of pollution. For these reasons, local residents and officials have urged the Fish and Wildlife Service to continue to expand the Edwin B. Forsythe National Wildlife Refuge to include as much of the undeveloped shoreline of Barnegat Bay as possible.

### 1.1 Proposal and Purpose

The Service proposes to expand the Barnegat Division of the Edwin B. Forsythe National Wildlife Refuge to include the addition of approximately 8,000 acres of mainly brackish tidal saltmarsh and to a lesser extent coastal flood plain swamp and forested upland habitat.

Eighteen open space or coastal wetland and upland sites and several islands have been identified within five townships for possible inclusion into the Forsythe Refuge (Figures 1, 2, and 3). All sites considered in this proposal are identified or designated for "preservation" by the Ocean County Comprehensive Master Plan of 1988 and are located within the New Jersey Pinelands National Reserve. All of the lands comprising this proposal also fall within one of the Waterfowl Habitat Areas of Major Concern as identified in the North American Waterfowl Management Plan of 1986.

The reason or purpose for proposing to expand the refuge by approximately 8,000 acres, is to enhance the purpose for which the refuge was originally established. These purposes as stated under the Authority of the Migratory Bird Conservation Act are:

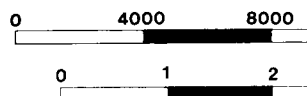
- a) to preserve estuarine habitats important to Atlantic brant (Branta bernicla), and
- b) to provide nesting habitat for black duck (Anas rubripes) and rails (Rallus sp.)

Another equally important purpose of the proposed additions is to protect wetlands that contribute to the economy, water quality and quantity, flood control and biodiversity. The protection of these remaining critical wetland areas is essential to the long-term welfare of wildlife species populations, especially waterfowl, migratory birds and endangered and threatened species.

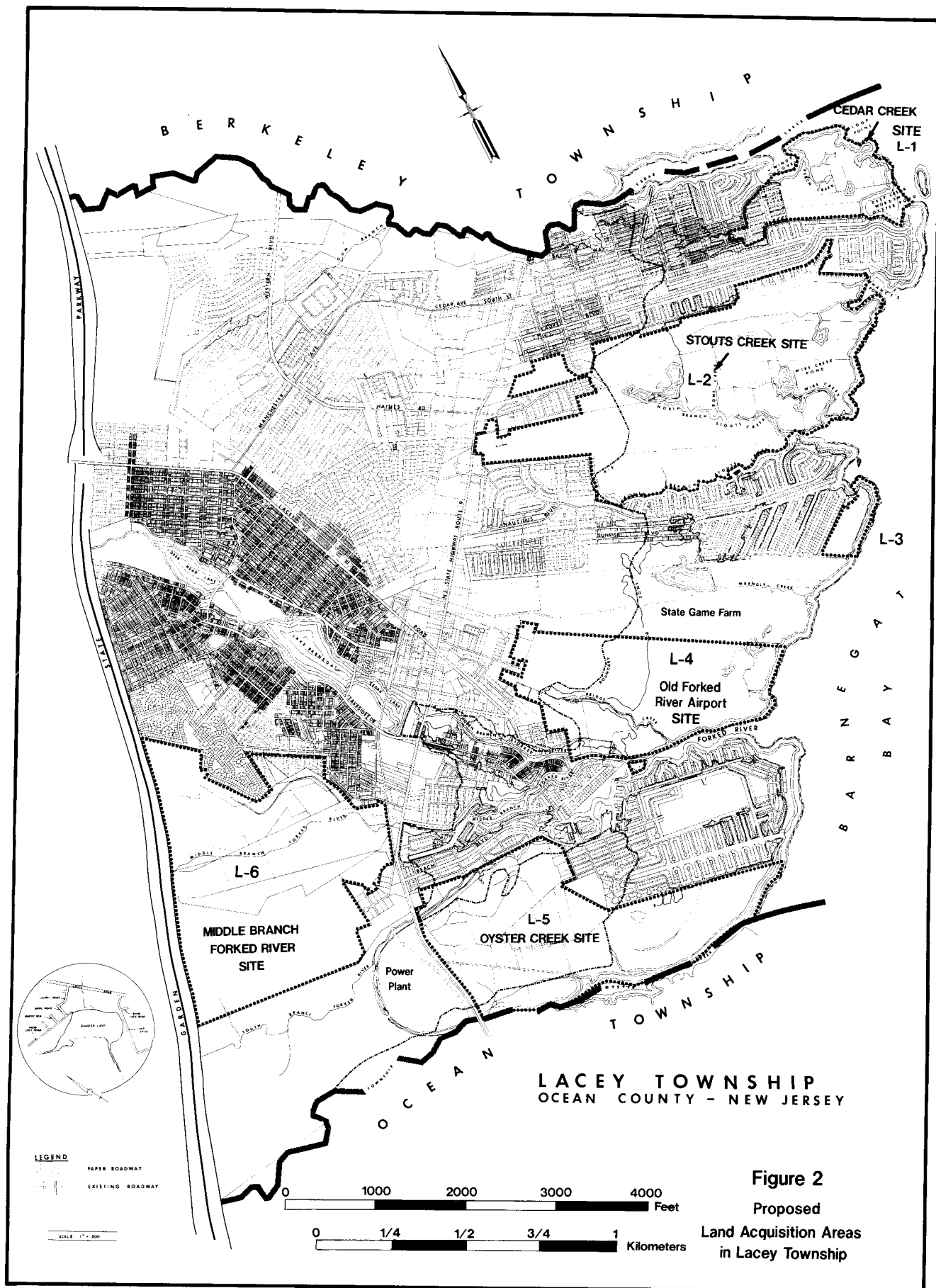
These Refuge additions, if approved, will be incorporated under the authorities of the Emergency Wetlands Resources Act of 1986 (Public Law 99-645), the Endangered Species Act of 1973 as amended, the Fish and Wildlife Act of 1956 as amended, and the Land and Water Conservation Fund Act of 1965 (LWCFA), as amended. Funds will be appropriated annually by Congress under those authorities for Refuge land acquisition and management. The federal laws and regulations affecting land acquisition and management of fish and wildlife resources are summarized in Appendix A.



UNITED STATES  
DEPARTMENT OF THE INTERIOR







**Figure 2**  
Proposed  
Land Acquisition Areas  
in Lacey Township

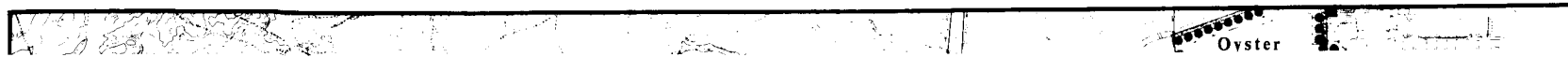


**PROPOSED ADDITIONS TO  
EDWIN B. FORSYTHE NATIONAL WILDLIFE REFUGE**

UNITED STATES  
DEPARTMENT OF THE INTERIOR

UNITED STATES  
FISH AND WILDLIFE SERVICE

**FIGURE 3**





The following broad goals of the National Wildlife Refuge System describe a level of responsibility and concern for the nation's wildlife resources for the ultimate benefit of people also apply to the protection of these particular land parcels.

- to preserve, restore, and enhance in their natural ecosystem all species of animals and plants that are endangered or threatened with becoming endangered.
- to perpetuate the migratory bird resource.
- to preserve a natural diversity and abundance of fauna and flora on refuge lands.
- to provide an understanding and appreciation of fish and wildlife ecology and man's role in the environment, and to provide refuge visitors with high quality, safe, wholesome, and enjoyable recreational experiences oriented toward wildlife to the extent these activities are compatible with the purposes for which the refuge was established.

Preservation of additional wildlife habitat along Barnegat Bay is consistent with the following:

- Mission and goals of The National Wildlife Refuge System.
- Goals and objectives of The North American Waterfowl Management Plan and Atlantic Coast Joint Venture Focus Area which includes Barnegat Bay.
- National Wetlands Priority Conservation Plan and Regional Wetlands Protection Concept Plan.
- Endangered Species Act and related individual species recovery plans.
- Nongame bird strategies and biodiversity policy objectives.
- Ocean County Comprehensive Master Plan.
- Management Recommendations for the Barnegat Bay (i.e. Sensitive Area Protection).
- New Jersey Pinelands Comprehensive Management Plan adopted November 21, 1980. The area along Barnegat Bay is within the Pineland National Reserve.



## 1.2 Legal Compliance and Decision Needs

The requirement to prepare an Environmental Assessment for a proposed Federal action is contained in the National Environmental Policy Act of 1969 as amended. The Regional Director will use this Environmental Assessment to select an alternative and to determine if the alternative selected or proposal will have a significant impact on the quality of the human environment as required by the National Environmental Policy Act. The reader or public can provide input to the decision making process by assisting in determining a) which land parcels would best meet the purposes of the refuge and associated boundaries, b) what interest (i.e. fee title, easements) should be acquired in those lands identified for inclusion into the refuge.

This Final EA and Land Protection Plan will be available for a 30-day public review period. The Regional Director will decide after taking into account public review comments and recommendations, on whether to carry out the alternative selected. Appraisals and purchase negotiations cannot be initiated until the EA review process is completed and project approval received. Congress will have ultimate oversight as to whether any land acquisition funds are appropriated.



## CHAPTER II

### DESCRIPTION OF THE ALTERNATIVES

#### 2.0 Introduction

This section presents three "action" alternatives including the "Proposed Action" and a "No Action" alternative being considered by the Service for the long-term protection of the subject wetland areas. Chapter 4 evaluates these alternatives based on biological, socioeconomic and public concerns to help the reader better understand the positive and negative impacts associated with each alternative.

For alternatives which include purchase of private land ("action alternatives"), acquisition is anticipated to take three to six years to complete because funding is dependent on annual Congressional appropriations.

#### 2.1 Alternative A -- Maximum Service acquisition of 8,000 acres

The proposed alternative is for the Service to acquire and manage 8,000 acres as part of the Barnegat Division of the Forsythe National Wildlife Refuge. All of the sites considered either abut or drain into Barnegat Bay. Acquisition may be in fee title or through conservation easements.

The proposed expansion study area extends along the western shoreline of Barnegat Bay from the existing boundary of the Barnegat Refuge Division northward to Silver Bay. The New Jersey Garden State Parkway forms the western border of the study area. Several major open space or coastal wetland sites and islands totalling approximately 5,766 acres were identified by local interest and private conservation organizations for possible inclusion into the Forsythe Refuge. The sites are shown in Figures 1 and 2 and include in order from north to south:

- a) Tilton Point -- The Applegate Cove area south of Cattus Island (407 acres) and a smaller parcel (68 acres) north of the Park on Silver Bay in Dover Township.
- b) Good Luck Point -- a 183 acre parcel at the mouth of Tom's River, Berkeley Township, currently owned by AT&T. This site is known as the "Pole Site" or old trans-Atlantic transmission station and adjacent Bay View forested area (700+ acres). A portion of the site is presently unused and may be available as a donation or fee purchase.
- c) Sloop Creek road area -- both north and south and the land east of Bay View (337 acres), Berkeley Township.
- d) Maple Creek -- a parcel approximately 578 acres of wetlands and upland forested



buffer located northwest of Berkeley Island.

- e) Cedar Creek Point and Lanoka Harbor (122 acres), Lacey Township, south of Cedar Creek.
- f) Stouts Creek -- both the north and south branches, Lacey Township with over 1,300 acres of coastal marshes and diverse upland habitat. This site includes the 195 acre Murray Grove parcel. This area was previously considered by the Service in July 1979 and again in January 1983.
- g) State Game Farm -- That portion of the property east of the farm and fronting the bay. Approximately 350 acres of diverse upland and wetland habitat, including a freshwater pond and stream. This parcel abuts the Forked River Airport or Annex site.
- h) Forked River Annex -- coastal area south of and abutting the State Game Farm (484 acres) and a smaller wetland parcel (60 acres) at Sunrise Beach, Lacey Township.
- i) Middle Branch Forked River -- approximately 450-500 acres of diverse forested and emergent wetlands and wooded upland buffer habitat along the river west of the Oyster Creek Power Plant and including that area on either side of the Garden State Parkway.
- j) Oyster Creek -- area opposite the Power Station (506 acres) which is the site of an old farm that consists of wetland and upland woods and old farm fields. A 232 acre parcel at Sand Point Harbor located north and south of The Bay Parkway is also included.
- k) Barnegat Beach and Liberty Harbor area coastal shoreline (315 acres), Ocean Township.
- l) Lighthouse Camp Site area located south of Barnegat Beach in Ocean Township (154 acres).
- m) Cedar Run Creek -- large area (834 acres) extending from the Garden State Parkway to the Barnegat Refuge boundary and Bay. The land area in question is flanked by Sprague Road and Oak Avenue north of Route 9 and Lamson Road and Cedar Run Road south of Route 9.
- n) Lake Manahawkin Area -- The proposed Waterford and Deer Lake Heights properties located on the northeast corner of the intersection of Route 37 and the Garden State Parkway, in Stafford Township. Approximately 450 acres of wooded wetlands and upland habitat.



- o) Bay Islands -- located north of the Tunney and Mathis Bridge totalling approximately 300 acres. The islands include:
- Mike Island (5 acres)
  - Harbor Island (81 acres)
  - Stooling Point Island (18 acres)
  - Little Sedge Island (55 acres)
  - Middle Sedge Island (90 acres)
  - Marsh Elder Island and New Point Island combined (49 acres)
  - Unnamed island adjacent to Mike's Is. on the Inward Thoroughfare Oyster Sedge Island off Cedar Creek Point
  - Various dredge spoil islands inside Barnegat Inlet and near Clam Island

All of the acreages given above are approximate and field surveys will be required to ascertain boundaries and actual land areas.

Lands purchased in fee as proposed would be under the jurisdiction of the Federal Government. These lands would qualify for payments by the Federal Government in lieu of taxes. Payment would be made to the local taxing entity, the towns, according to the terms of the Refuge Revenue Sharing Act of 1978, and could be used by the town(s) for "any governmental purpose." In cases where a conservation easement is purchased, the land would remain in private ownership and no revenue sharing payments would be made.

Acquisition priority will be determined on the basis of resource values, threat of impairment to habitat, willingness of owners to sell and feasibility of management. Pending funding, initial priority will be given to the Stouts Creek-Murray Grove property in Lacey because of its high resource value and availability (See Appendix B).

Final boundaries have been developed based on the topography, soils, wildlife uses, existing wetlands and management needs. Where practical, the refuge boundaries attempt to follow existing roads, property lines or land use lines.

No displacement of any families or persons will occur with the subject properties considered by this proposal and acquisition of property with improvements (i.e. buildings) will be avoided where possible unless the owner wishes to include such in the sale.



## 2.2 Alternative B - No Action Alternative

Under the No Action alternative, the Service would not acquire any additional lands and expansion of the Forsythe Refuge would not include any of the sites considered by this proposal.

In the absence of acquisition and protection by the Service or others, the lands evaluated herein would remain in private ownership. Future protection of these lands would be dependent, therefore, upon the enforcement of existing state, federal and local laws and regulations.

Under this alternative, the Service would continue to review project proposals and permit applications pursuant to its responsibilities under various federal statutes. These review functions delegated to the Service by the Secretary of the Interior are prescribed by the Fish and Wildlife Coordination Act, the National Environmental Policy Act of 1969, the Endangered Species Act, Wetlands Protection Act and various Executive Orders. The Service, through its Division of Ecological Services Field Office in Pleasantville, New Jersey, reviews proposals for activities in or affecting navigable waters and wetlands that are sanctioned, permitted, assisted, or conducted by the Federal Government.

## 2.3 Alternative C - Non Fee Acquisition or Acquisition of Conservation Easements

Under the non-fee title or conservation easement alternative, the Service would acquire conservation easements on a willing seller basis from landowners. These conservation easements could be purchased by the Service or donated by the landowner with the receipt of tax reduction benefits based on fair market value determination of the property. These easements would be perpetual and become a part of the deed to the property. The exact terms of a conservation easement would be negotiated on a case-by-case basis for each tract of land. General terms of an easement would include those restrictions considered necessary to prevent impacts on wetlands, endangered species or their habitats; landowners would retain title to and occupation of their property. Such restrictions could include the following:

Development Rights -- All types of surface disturbance including construction of buildings or roads, pipelines, power lines, or other infrastructure.

Disturbance of Vegetation -- Clearing or burning of any vegetation or other activities such as grazing, impoundment of water, or application of herbicides or other chemicals which could impact vegetation or wildlife.

Excessive Public Use -- A prohibition on human use and activity at times and in places where disturbance to wildlife or their habitats may occur.



Water Quality and Quantity Protection -- Uses of water, placement of wells or impoundments, use of chemicals, or land uses which adversely impact water quality or quantity.

Other land uses would remain under the control of the landowner.

Costs of the easement could approach that of fee acquisition due to their restrictive nature. Since each easement would be negotiated individually, exact costs are not known. However, past experience indicates that costs of easements would be 50 to 75 percent of fee acquisition costs.

The private owner would remain responsible for tax payments to the towns or counties. No payment by the government, in lieu of taxes, would be made.

While conservation easements could protect the habitat as it exists today, management capabilities might be limited.

#### 2.4 Alternative D -- Protection by Other Agencies

Land conservation and protection today, because of the high costs, requires a multiagency or partnership effort. The federal government, or more specifically the Fish and Wildlife Service, can not nor should not be responsible for protecting all of the lands that need protection.

If we are to protect key open space and wildlife areas effectively and preserve the qualities and natural characters of Barnegat Bay that make it so special, then ideally the Service needs to be but one player in a coordinated protection strategy involving other state, local, regional, and private interests. Each agency or organization would work within its own policies, procedures and time frames to accomplish the task.

Tilton Point Site a), for example, located immediately adjacent to Cattus Island County Park, should perhaps be considered for acquisition by the County for incorporation into the Park or designated as a wetlands conservation area to preclude future impacts on these two parcels. Presently, the Trust for Public Lands (TPL) is working with the New Jersey Green Acres Program to protect the remaining undeveloped wetlands and upland buffer around the Cattus Island Natural Area. Ownership and long-term management of the area has yet to be determined but the Service has indicated its willingness to work cooperatively with the county and/or state in co-managing this critical resource.

Site h), Forked River and Sunrise Beach, because of their proximity to the State Game Farm, probably should be acquired by the New Jersey Division of Fish, Game and Wildlife as buffer habitat. Acquisition by the state or county would be an option to federal government acquisition and could facilitate protection and management of the park and game farm. Since the release of the Draft EA however, the New Jersey Division of Fish, Game and Wildlife has



requested that approximately 350 acres surrounding the farm be incorporated into the Service's refuge expansion proposal.

The Green Acres Program and New Jersey Natural Land Trust are other agencies that acquire wetland and upland habitat for conservation and recreation purposes. The New Jersey Conservation Foundation, The Trust for Public Lands, and The Nature Conservancy are private land conservation agencies who may also assist in local land protection efforts. The Trust for Public Lands was instrumental in initiation of land protection efforts at Reedy Creek and is still actively pursuing willing sellers in that area. The New Jersey Conservation Foundation is also actively pursuing protection of lands surrounding the headwaters of the Forked River.

The Ocean County Izaak Walton League, in a newsletter dated April 27, 1992, has suggested that a \$2 million settlement to the State from Ciba-Geigy Corp. could be used to purchase environmentally sensitive lands or open space. Tilton Point, Cedar Creek Point and the bay islands north of Tunney-Mathis Bridge were mentioned as possible acquisitions. The organization has spearheaded land protection efforts throughout the Bay region and has recently worked to protect some 320 acres in the Murray Grove-Stouts Creek area.

## 2.5 Management Goals Common to "Action" Alternatives

Management of the proposed Refuge and future land acquisitions would be directed toward protecting, restoring, and enhancing wetlands. Other Refuge programs would provide for specific Service goals (i.e., protection of endangered and threatened species) and compatible wildlife-oriented recreation. Management activities would be designed to:

- Protect, restore, and enhance wetlands for the wildlife and human values present.
- Protect and enhance endangered and threatened species populations.
- Improve general public access and provide a variety of recreational opportunities (hunting, fishing, trapping, environmental education, hiking, birding, research, etc.).
- Protect and enhance waterfowl populations and especially black duck populations.
- Develop water management programs that create and enhance resting, nesting, and feeding habitat for waterfowl, other migratory birds, endangered species, and resident wildlife.
- Maintain or develop habitat management programs (grassland, wetland, and forest management) that promote or enhance refuge purposes.



- Manage the Refuge to control erosion and sedimentation, maintain efficient hydrologic flow, and improve flood control and water quality.
- Protect unique natural areas and maintain and promote biodiversity.
- Protect and improve the fishery resource.

During the initial stages of the proposed Refuge's land acquisition and development, public meetings will be held to encourage participation in the creation and planning of Refuge management programs. As land is acquired, the Service will develop the appropriate management plans and facilities in compliance with the National Environmental Policy Act of 1969, as amended.



## CHAPTER III

### AFFECTED ENVIRONMENT

#### 3.0 Introduction

This Chapter describes the existing natural resources, general environment, and special environmental features for most of those sites being considered for addition to the Forsythe National Wildlife Refuge. The information in this chapter is the result of field surveys conducted by Radis and Sutton (Herpetological Associates), 1991, Coastal Environmental Services, Inc., and the field survey by Gordon, 1992 were commissioned by the Ocean County Izaak Walton League. Additional background environmental and socioeconomic information is contained in previous environmental assessment reports on the Forsythe Refuge Additions, 1987 and the Reedy Creek Addition, 1990.

#### Natural Resources of the Area

#### 3.1 Habitat Description

##### Goodluck Point

A large tract of land containing a variety of habitats: Salt marsh, red maple swamp, oak/pine and pine/oak uplands, and disturbed, grassy open areas which have apparently been created by sand mining. The salt marsh occurs on both sides of Bay View Avenue, and its predominant plant species is the grass Spartina patens, with lesser amounts of Spartina cynosuroides, scattered throughout. Groundsel tree (Baccharus halimifolia), marsh elder (Iva frutescens), giant reed (Phragmites australis), red cedar (Juniperus virginiana), salt marsh aster (Aster tenuifolius), bayberry (Myrica pennsylvanica), and seaside goldenrod are common throughout this area. This site is owned by AT&T, and numerous transmission towers, poles, and wires are found here. Part of the site is transected by an old railroad ROW, which leads into the upland portion of the tract.

The uplands are predominantly pitch pine (Pinus rigida), Virginia pine (Pinus virginiana), and shortleaf pine (Pinus echinata), and oak species such as pin (Quercus palustris), Spanish (Q. falcata), willow (Q. phellos), white (Q. alba), blackjack (Q. marilandica), and scarlet (Q. coccinea). The understory is an often dense tangle of saplings of various species, mountain and sheep laurel (Kalmia latifolia, K. angustifolia), and greenbriar (Smilax rotundifolia). Vegetation in the disturbed open area consists of such species as gray and yellow birch (Betula lenta, B. lutea), persimmon (Diospyros virginiana), and often dense growths of switchgrass (Panicum virgatum), beardgrasses (Andropogon scoparius, A. virginicus), and Canada and grass-leaved goldenrods (Solidago canadensis, Euthamia graminifolia). Woods roads and dirt bike trails bisect much of the wooded and open areas.



The red maple (Acer rubrum) wetland is relatively small in area, and also contains such tree species as sweet gum (Liquidambar styraciflua), and sour gum (Nyssa sylvatica). One small area at the northern end of the upland contains a small area of Atlantic white cedar (Chamaecyparis thyoides) swamp, with growths of such typical species as Sphagnum moss and cranberry (Vaccinium macrocarpon).

#### Bay View Avenue, Rt. 617 Sloop Creek Road

A large area of tidal salt marsh with adjacent upland oak/pine forest and an open filled area along Bay View Avenue, located just to the south of Goodluck Point. Plants in the tidal marsh area are typical salt marsh species: Spartina grasses, giant reed, marsh elder, groundsel tree, seaside goldenrod, glasswort (Salicornia bigelovii), salt marsh aster, and sea pink (Sabatia stellaris). The filled area supports small red cedars, small oaks, switch grass, giant reed, beard grasses, wild flax (Linum sp.), and Canada goldenrod. The oak/pine uplands are composed largely of white, willow, scarlet, black, and Spanish oaks, pitch pine, scattered sweet gums, and an understory of small hollies, arrowwood, and mountain laurel.

#### Cedar Creek Point

A large tract of tidal salt marsh with some remnant tracts of pine/oak forest and small red maple and Atlantic white cedar wetlands which are separated from the marsh by several blocks of new housing. The tidal marsh is mainly Spartina grasses, with occasional dense clumps of giant reed and scattered shrubs of marsh elder and groundsel tree. Also located in the marsh are small "islands" composed of red cedar, pitch pine, and stunted oaks. The marsh is fringed along its edges with giant reed and shrubs such as staghorn sumac (Rhus typhina), bayberry, and wild cherry (Prunus serotina).

#### Stouts Creek-Murray Grove/South Branch Stouts Creek

Because these two sites are contiguous, and their habitats and vegetation are essentially similar, their description is lumped here. Habitat is composed of tidal wetlands, oak/pine uplands, red maple wetlands, an old field, and vernal ponds. The oaks on the site are predominantly white, willow and Spanish, and pitch pine is the predominant conifer, though a few short-leaf pines were noted during the survey. Highbush blueberry was the most common shrub species over most of the tract in both wetlands and uplands. Common herbs noted include starflower (Trientalis borealis), wintergreen (Gaultheria procumbens), Canada mayflower (Maianthemum canadensis), partridgeberry (Mitchella repens), and two orchids which are very unusual for this part of the state:



green woodland orchid (Platanthera clavellata) and whorled pogonia (Isotria verticellata). Stone (1911) calls the latter "very rare in the Pine Barrens," and he considered this area of the Coastal Plain as part of that physiographic region.

During the survey period, over twenty small vernal ponds were counted on this tract; they held water in the spring but were dry by August. A few of the deeper ponds supported emergent and aquatic vegetation such as bullrush (Juncus sp.), water millfoil (Myriophyllum humile), and fragrant water lily (Nymphaea odorata). The red maple wetlands contain sour gum, sweet gum, and sweet bay; and cinnamon, netted chain fern (Woodwardia areolata), and royal fern are common herbs.

#### North Side of Forked River

A mix of oak/pine uplands, an old field, a tidal salt marsh, red maple wetlands, and an Atlantic white cedar swamp. Upland forest is a mix of pitch pine and oaks such as willow, black, scarlet, and white, with an often dense understory of huckleberry and, in places, poison ivy (Toxicodendron radicans), Japanese honeysuckle (Lonicera japonica), American holly, and greenbriar. A portion of this forest contains mature willow oaks and has a sparse shrub cover. The old field is typified by red cedar, birches, bayberry and small pitch pines, along with herbs such as switch grass and beard grasses.

The tidal wetland contains such typical plants as Spartina grasses, giant reed, groundsel tree, marsh elder, and seaside goldenrod. The Atlantic white cedar swamp contains some fairly mature trees, and has a shrub layer composed mainly of highbush blueberry, with a ground cover composed of Sphagnum mosses, royal and cinnamon ferns (Osmunda regalis, O. cinnamomea), cranberry, and sedges (Carex collinsii, C. folliculata). The red maple wetlands has typical species such as sour gum, sweet bay (Magnolia virginiana), southern arrowwood (Viburnum dentatum), and cinnamon and royal ferns. An unnamed stream which passes through the tract is ponded in several areas and supports beds of emergent vegetation such as bayonet rush (Juncus militaris), wool sedge (Scirpus cyperinus), and spatterdock (Nuphar lutea).

#### Middle Branch of Forked River

The entire watershed is still virtually undeveloped but such pressures are increasing. The site contains extensive emergent marshes and wooded wetland swamp habitat which support a variety of migratory bird species, waterfowl, endangered and threatened species and anadromous fish. This relatively undisturbed habitat provides nesting and feeding areas for several raptors, the American Bald Eagle and the Great and Little Blue Heron. Table 3 list, the documented threatened and endangered species from the Middle Branch watershed. The New Jersey Conservation Foundation (NJCF) is pursuing the acquisition and protection of approximately 3000 acres on the upper of the Forked River. Protection of the river's headwater wetlands and upland buffer will provide long-term water-quality protection to Barnegat Bay and refuge wetlands. The



opportunity exist to combine both the Service and NJCF proposal with other acquisition efforts to create a greenway or corridor between and among state own forest and wildlife management areas and the bay.

### Oyster Creek

A fairly large tract consisting of tidal wetlands, oak/pine pine/oak uplands, and large areas of open fields which were once part of a farm. The tidal area is crossed by canals, contains mounds of dredge spoil, and the predominant vegetation consists of dense growths of giant reed, with areas often densely overgrown with groundsel tree and marsh elder, and by bayberry. There is very little Spartina remaining in this area. Wooded uplands are composed mainly of pitch pine, white, willow, scarlet, Spanish, and blackjack oaks, along with scrub oak (Quercus ilicifolia) and black oak (Quercus velutina). The understory is a fairly uniform growth of huckleberries (Gaylussacia dumosa, G. frondosa) and blueberries (Vaccinium vacillans). The old fields contain scattered pitch pines, red cedar, and small scrub oaks, and contain open sandy areas devoid of most vegetation. Ground cover consists of such species as switch grass, grass-leaved goldenrod, fragrant goldenrod (Solidago odora), prickly pear (Opuntia compressa), golden false heather (Hudsonia ericoides), calico aster (Aster lateriflorus), stiff aster (Aster lineariflorus), white panicked aster (Aster simplex), beardgrasses, hawkweeds (Hieracium sp.), and bracken (Pteridium aquilinum). A small Atlantic white cedar swamp is located along the river at the northwest of the site. A large diked area on the western portion of the tract appears to be a retention basin of some type. Posted signs on Route 9, along the western edge of the tract, state the tract's ownership to be Jersey Central Power and Light.

### Water Street Site

Most of the tract is a red maple wetland with some sweet gum, sour gum, and American holly, and a shrub layer composed largely of southern arrowwood. An adjacent open area is a mowed trail leading to the edge of the national wildlife refuge, which appears to be heavily used by local children and off-road vehicle users. Vegetation here includes mimosa (Mimosa sp.), willow oak, an escaped ornamental, pampas grass (Cortaderia arentea or C. selloana), giant reed, greenbriar, Canada goldenrod, and climbing false boneset (Mikania scandens). The edge of the property that abuts Water Street is heavily overgrown with green-briar, multiflora rose (Rosa multiflora), poison ivy, and Japanese honeysuckle.

### Manahawkin Lake Area

The Waterford and Deer Lake Heights proposed develop area(s) support a remarkable diversity of rare plants including one of the most viable communities of the federally listed threatened plant *Helonias bullata* (swamp pink) as well as such state listed species as the pine barren tree frog and Great blue heron. The area is transected by two



freshwater streams and is further characterized by red maple swamp and conifer stands of Atlantic white-cedar, pitch pine American larch, black and red spruce. Windisch (1992) discussed in detail the swamp pink population and habitat characteristics and has outlined a "preserve design" for the protection and management of this area. In addition to its wildlife values, the protection of this habitat and associated stream corridors would protect downstream water quality impacts to Lake Manahawkin and ultimately the Bay.

### Cedar Run Creek

The habitat at this site is dominated at the northern end by a mature stand of Atlantic white cedar, then opens up into an abandoned cranberry bog sectioned by two dikes with water control structures. The Cedar Run Creek area provides excellent habitat for wood duck and the flooded timber provides nesting and roosting habitat for this species. These wetlands provide excellent feeding and brood rearing habitat for wood duck and black duck. Potential osprey nesting habitat also exist and could be enhanced if long-term protection measures are fulfilled. Inclusion of this area into the Forsythe Refuge will ensure the long-term protection of the watershed from development and will maintain the water quality entering refuge lands east of this proposed addition.

## 3.2. Wildlife Values

### Endangered and Threatened Species

The results of the 1991 survey show that all eight of the study sites constitute Endangered or Threatened Wildlife Habitat (N.J.A.C. 7:7E-3.36), Critical Wildlife Habitat (N.J.A.C. 7:7E-3.37), and contain Wetlands with Exceptional Resource Value (N.J.A.C. 7:7A-9.2).

Endangered or Threatened Wildlife Species Habitat is defined by the state as: "areas known to be inhabited on a seasonal or permanent basis by or to be critical at any stage in the life cycle of any wildlife (fauna) or vegetation (flora) identified as "Endangered" or "Threatened" species on official Federal or State Lists." The 1991 survey has demonstrated that such New Jersey and Federal-listed bird species as Peregrine Falcon, Bald Eagle, Northern Harrier, Osprey, Red-shouldered Hawk, American Bittern, Grasshopper Sparrow, and Great Blue Heron feed, rest, and/or nest on all of the study sites (Table 1). Five Great Blue Herons were observed at Cedar Run Creek on September 16, 1991, and an American Bittern was seen on August 9, 1991. This area holds great potential for osprey nesting and heron rookery habitat. The New Jersey "Endangered" Pine Barrens Treefrog was noted at two sites, while a Federal "Threatened" and New Jersey "Endangered" plant (Swamp pink) was discovered on one site, and a Pinelands-protected plant (Southern twayblade) was located at two sites. Table 3 summarizes threatened and endangered species identified from the Middle Branch of the Forked River.



TABLE 1  
 "THREATENED" OR "ENDANGERED" BIRDS  
 SEEN ON THE NINE STUDY SITES  
 (Herpetological Associates, 1992)

F = Federa  
 E = Endangered  
 T = Threatened

SPECIES	STATUS	# OF SITES SEEN
Great Blue Heron	NJ T	9
Little Blue heron	NJ T	3
American Bittern	NJ T	4
Osprey	NJ T	5
Bald Eagle	NJ E, F E	2
Northern Harrier	NJ E	6
Peregrine Falcon	NJ E, F E	2
Cooper's Hawk	NJ T	4
Red-Shouldered Hawk	NJ E	2
Grasshopper Sparrow	NJ T	2
Savannah Sparrow	NJ T	5



TABLE 2  
RARE PLANTS  
FIVE SELECTED TRACTS ALONG BARNEGAT BAY  
(Gordon, 1992)

STOUT'S CREEK - MURRAY GROVE

Southern twayblade orchid	--	<i>Listera australis</i>
Cranefly orchid	--	<i>Tripularia discolor</i>

OYSTER CREEK TRACT

Barratt's sedge	--	<i>Carex barratti</i>
Bog asphedel	--	<i>Narthecium americanum</i>
Pine barren reedgrass	--	<i>Calamovilfa brevipilis</i>
Shepherd's cross	--	<i>Teesdalia nudicaulis</i>

NORTH OF THE FORKED RIVER TRACT - abuts the State Game Farm and includes abandoned airport area.

Slender marsh pink	--	<i>Sabatia campanulata</i>
New Jersey rush	--	<i>Juncus caesariensis</i>
Pine barren bonesett	--	<i>Fuirena squarrosa</i>
Fragrant ladies' tresses	--	<i>Spiranthes odorata</i>
Wand-like goldenrod	--	<i>Solidago stricta</i>
Slender marsh pink	--	<i>Sabatia companulata</i>
Marsh rattlesnake master	--	<i>Eryngium aquaticum</i>

GOODLUCK POINT TRACT - inland tract and AT&T pole site.

Cranefly orchid	--	<i>Tipularia discolor</i>
Mud paspalum	--	<i>Paspalum dissectum</i>

CHAPMAN PROPERTY, north of lighthouse Camp parcel

Slender marsh pink	--	<i>Sabatia companulata</i>
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Infrequent species also identified and include: Loose-headed Beaked Rush (*Rhynchospora chalarocephala*), Slender Beaked Rush (*R. gracilentia*), Shorttoothed Mountain Mint (*Pycnanthemum setosum*) and Sheep's Bit (*Jasione montana*).



TABLE 3  
THREATENED/ENDANGERED SPECIES KNOWN TO EXIST IN THE WATERSHED OF  
THE MIDDLE BRANCH OF FORKED RIVER

PLANTS	SCIENTIFIC NAMES	FEDERAL STATUS	STATE STATUS
Pine Barren Bellwort	<i>Uvularia puberula</i>		E
Curly Grass Fern	<i>Schizaea pusilla</i>	3C	
Pine Barren Reedgrass	<i>Calamovilfa brevipilis</i>	3C	
New Jersey Rush	<i>Juncus caesariensis</i>	C2	E
Rough Cottongrass	<i>Eriophorum tectellum</i>		E
Bog Asphodel	<i>Nartecium americanum</i>	C1	E
Pine Barren Boneset	<i>Eupatorium resinosum</i>	C2	E
Pine Barren Smoke Grass	<i>Muhlenbergia torreyana</i>	3C	

#### HERPTILES

Pine Barren Tree Frog	<i>Hyla andersoni</i>	3C	E
Timber Rattlesnake	<i>Crotalus horridus horridus</i>		E
Northern Pine Snake	<i>Pituophis melanoleucus melanoleucus</i>	C2	T
Eastern Mud Salamander	<i>Pseudotriton montanus montanus</i>		T

#### BIRDS

Red-shouldered Hawk	<i>Buteo lineatus</i>		E/T
Barred Owl	<i>Strix varia</i>		T/T
Great Blue heron	<i>Ardea herodias</i>		T/S
Osprey	<i>Pandion haliaetus</i>		T/T
Cooper's Hawk	<i>Accipiter cooperii</i>		E

#### Sources of Information:

- 1) Natural Heritage Data, office of Natural Lands Management N.J. DEPE
- 2) Mr. Ted Gordon
- 3) Dr. V. Eugene Vivian ACES Environmental, Tuckerton, N.J.
- 4) Terence M. O'Leary
- 5) Mr. Robert Zappalorti, Herpetological Associates, Forked River N.J.
- 6) Terrestrial Environmental Specialists, Inc., Phoenix, N.Y.



### Highlights of the Botanical Survey (Herpetological Associates, 1991)

Twelve individuals of swamp pink (Helonias bullata) were counted in a cedar swamp on the north side of Forked River. This species is listed by the U.S. Fish and Wildlife Service as a "Threatened" species, and by the state of New Jersey as "Endangered." The species' range is from NJ south to Virginia and northern Georgia; the best remaining populations are in New Jersey, where it is known to occur in most of the Coastal Plain counties and in two disjunct sites in Morris County. None of the Forked River plants apparently bloomed this year, as there were no scapes or seed capsules present.

Southern twayblade (Listera australis, a Pinelands-listed Protected species) was found growing on both the Stouts Creek/Murray Grove and South Branch Stouts Creek sites. Fifty-six individuals were counted on the former site, and thirteen on the latter. Also present here was crane fly orchid (Tipularia discolor), a rare species which is tracked by the NJ Natural Heritage Program, and is ranked as S3, which indicates that the species is known in the state from twenty-one to fifty occurrences. Additional sightings of rare plant species were recorded by Gordon (1992) at five of the sites considered for addition to the refuge and these are summarized in Table 2.

### Herptiles and Mammals

The following represents a summary of field observations made at the eight sites surveyed by Herpetological Associates (1991) and described in Section A - Habitat Description.

The number of mammals sighted ranged from eight to sixteen species including the Virginia Opossum which was present at all areas. The other species sighted included gray fox, red fox, red bat, raccoon, gray squirrel, red squirrel, Eastern chipmunk, woodchuck, Eastern cottontail, Eastern mole, and masked shrew. The long-tailed weasel, a seldom-seen species, and Southern flying squirrel, a species of undetermined status in New Jersey, were observed at Good Luck Point on the forested tract surrounding the wetlands.

A herd of white-tailed deer estimated at over twenty in number was found at Oyster Creek. This was the highest number of deer recorded for any of the study sites and evidence of overbrowsing was noted, which indicates overpopulation of deer for this particular site.

Herptile species numbers ranged from 10 to 14 species with the north side of the Forked River showing the most diversity of the sites. Pine Barren Treefrogs were found in significant numbers at this site and also at the Stouts Creek/Murray Grove site. This species is listed as "endangered" within the state; it feeds on uplands near its



spawning pools. Other species of note common to most areas included the Eastern hognose snake (declining species), Northern black racer, Northern diamondback terrapin, and red-backed salamander. Two other declining species, the four-toed salamander and marbled salamander, were observed at Good Luck Point and the Stouts Creek areas. Herpetological Associates also reported that the Oyster Creek site provides potential habitat for the Northern pine snake but the limited survey period didn't allow enough time to determine its presence or absence.

### Waterfowl

The refuge provides wintering habitat for approximately 10% of the Atlantic Flyway's black duck population and approximately 15% of the flyway's Atlantic brant population. A much greater portion of the flyway's population of these two species utilizes the refuge during fall and spring migration. The Refuge also provides significant wintering habitat for mallards (Asa platyrhynchos), American wigeon (A. american), canvasbacks (Aythya valisineria), and greater scaup (A. marila), and nesting habitat for mallards and black ducks.

The State of New Jersey Division of Fish, Game and Wildlife's 1991 midwinter waterfowl inventory survey for Barnegat Bay recorded ten species totalling 21,600 ducks comprised of eight species along with 3,100 Canada geese, and 1,100 mute swans. The duck species identified included mallard, black, canvasback, scaup, bufflehead, merganser, old squaw and brant. The latter two species of sea duck comprised 8% of the total numbers recorded while mallard and black duck comprised 25.5% of the total numbers counted. All the wetland sites described within this proposal provide essential coastal wintering habitat for waterfowl, especially black duck. Black duck numbers at any time during the winter months at Good Luck Point, Stouts Creek and/or Forked can vary from 200 to 400 birds at each site or 11-12% of the total duck population. The numbers of a particular duck species will vary depending upon the size of the marsh and its location along the Bay.



## Bird Surveys

The following observations are also taken from the survey report by Herpetological Associates (1991). Further details on the birdlife of the Forked River/Cedar Creek areas and other coastal bays sites are described in Brady (1980).

### A. Birds of Goodluck Point

One hundred fifteen species of birds were noted here during the survey period, with fifty-six constituting local breeding species. Osprey successfully nested and fledged young directly on the site in 1991. Peregrine Falcon was observed hunting and resting on the site during three of the site visits; there is a state-operated hawk tower nearby. Northern Harriers (NJ "Endangered" as a breeding species) were observed hunting on the site during the winter and fall. Great Blue Heron were observed feeding at Goodluck in winter and fall. Four American Bitterns were noted in November, and were either migrating or overwintering birds. This is a declining species over much of its range, due to wetland destruction. Ten Savannah Sparrows were counted during a November site visit. Seven species of herons, thirteen species of waterfowl, and six species of shorebirds were observed on the site during the study period, and good numbers of migrant passerines were observed, particularly on the upland portion.

### B. Birds of Cedar Creek Point

One hundred and twenty-one species of birds were seen on this tract during the winter, spring, summer and fall of 1991; thirty-two were thought to be local breeding species. An adult Bald Eagle was observed from this site in September, chasing an Osprey which was carrying a fish. Neither species nested on the tract. A Great Blue Heron was also seen feeding on this tract. Twelve species of waterfowl, five species of herons, and nine shorebird species were seen during the study period. Another bird of interest present on the site was a Barn Owl, which was found in November roosting in a small pitch pine/red cedar "island" in the salt marsh. Good numbers of migrants such as warblers, kinglets and thrushes were seen, particularly along the edges of the tract near roads and in the small wooded tracts to the west.

### C. Birds of Stouts Creek-Murray Grove

One hundred and sixteen species of birds were seen on this site, fifty-one of which are thought to be local breeding species. Great Blue Heron, Little Blue Heron, Osprey, and Cooper's Hawk (all NJ "Threatened" as breeding species) were noted here. Although Cooper's Hawk was seen during a number of winter and fall visits (as it was at the adjacent Oak Park Homes site), there was not enough evidence to suggest that the species nested: no nest was found, nor were calling, territorial birds observed during spring site visits. Northern Harrier (NJ



"Endangered" as a breeding species) was seen using the site during surveys in the winter of 1991. A Grasshopper Sparrow was noted on 9/8, but this was doubtless a migrant, as there was no suitable habitat present on-site and no Grasshopper Sparrows were noted in the spring. The species is, however, not often noted during migration. Wintering Savannah Sparrows ("Threatened" as a breeding species) were also noted here.

Four species of herons, nine of waterfowl, five shorebird species, and nine species of raptors (including resident Great Horned Owl and Screech Owl), were counted during the study period. Both the wetlands and uplands of the Stouts Creek Site were found to be important to migrant passerines such as Vireos and Warblers. A total of fourteen species of migrant vireos and warblers were counted, and an additional eight were thought to be local breeding species.

D. Birds of South Branch of Stouts Creek

One hundred species of birds were counted on this study site, fifty-two of which were thought to be local breeding species. A second-year Bald Eagle (Federal and NJ "Endangered") was seen on the site on 9/15, roosting on a dead tree near Barnegat Bay. Several local residents told HA staff members that both immature and adult Bald Eagles had been regular visitors to this and the above site for the last three years. Numbers of Bald Eagles have been increasing in New Jersey in recent years, and wandering nonbreeding birds are being seen with increasing frequency throughout the state. Ospreys were also seen roosting on this tract, though they did not nest here. Possibly the same Cooper's Hawk seen on the above site was observed on 9/15, unsuccessfully pursuing a Northern Flicker; no evidence was found that this was a local breeding bird. Good numbers of migrant passerines were observed here. Six Swainson's Thrushes and three Gray-cheeked Thrushes, species which, with each passing year, become more difficult to find, were seen on the Oak Park Homes site during the spring and fall migration. Sixteen species of migrant vireos and warblers, and an additional nine species of local breeding vireos and warblers, were counted during the survey period, including such uncommon transients as Kentucky and Mourning Warblers.

E. Birds Seen on North Side of Forked River

One hundred and twenty-seven species of birds were counted at this site during the survey period, fifty-three of which were thought to be local breeding birds. Cooper's Hawk (NJ "Threatened") was seen during a May site visit, and though no nest was located, the bird was actively calling and acting like a territorial bird and probably nested on the tract. Red-shouldered Hawk (NJ "Endangered" as a nesting species) was observed roosting on the site, though it was not possible to determine whether this was a migrant or an overwintering bird. Great Blue Heron and Little Blue Heron, and Osprey (all NJ "Threatened" as nesting birds) were observed resting and feeding in and near this site, though they did not nest



directly on it. Wintering Savannah Sparrows (NJ "Threatened" as a nesting species) were also noted here.

Five species of herons were noted on the site during the survey period, as were ten species of waterfowl, seven species of shorebirds, and seven species of hawks. This is an important site for migrant passerines such as flycatchers, thrushes, kinglets, vireos, and warblers. These birds are stressed at both ends of their migration: outright destruction of their wintering grounds in the tropics, and increasing fragmentation of their breeding grounds in the temperate zone. In between, there is less and less habitat for feeding and resting. Eighteen migrant vireos and warblers were noted during the study period, and an additional seven were thought to be local breeding species. Yellow-bellied Flycatcher, Philadelphia Vireo, and Mourning Warbler--difficult species to find in this area--were seen here during spring and fall migration.

F. Bird Species Seen at Oyster Creek

Ninety-nine species of birds were seen here during the survey period, and fifty-seven were thought to be local breeding birds. One of the surprises of the survey was the discovery of breeding grassland birds in the upland fields which were once part of a farm. Grassland species such as Upland Sandpiper, Savannah, Vesper, and Grasshopper Sparrows, and Bobolink have declined precipitously during the last decades due to habitat destruction and the decline of such agricultural uses such as dairying and grazing, which once maintained the open, grassy areas needed by these species. Once-common birds such as Horned Lark and Eastern Meadowlark have also declined. Five singing Grasshopper Sparrows (NJ "Threatened") were counted during a June visit, as were two Horned Larks and seven Eastern Meadowlarks, species which the NJDEP views as declining breeding birds. There are nearby grassland colonies, at Lakehurst Naval Air Engineering Center and on property owned by the Hovnanian Company; these birds may be overflow from those sites.

American Bittern and Little Blue Heron, Northern Harrier, and Osprey (as a nesting) were observed during the survey period resting and hunting on the site, though they were not thought to be local breeding birds. Good numbers of migrant, or perhaps wintering Savannah Sparrows were observed during the period, mainly at the eastern end of the property near Barnegat Bay. In November very good numbers of migrant and wintering kinglets, sparrows, Pine Siskins, and finches were counted.

G. Birds Seen on the Water Street Site (Double Creek Area)

Fifty-seven species of birds were seen on or in the immediate vicinity of this site during the survey period; thirty-four were thought to be local breeding species. Northern Harrier and Great Blue Heron and Little Blue Heron were observed near



this site; neither were thought to be a local breeding species. Some migrants, such as Eastern Kingbirds, Veery, Swainson's Thrushes, Cape May and Magnolia Warblers, were noted during a September site visit.

#### H. Birds of Sloop Creek Road

Eighty-two species of birds were counted here during the survey period, forty-three of which were thought to breed on the tract or in the immediate vicinity. Of note here are the threatened and endangered raptors which were seen hunting and resting on the site. Peregrine Falcon were observed on both site visits; this is probably one of the birds observed at nearby Goodluck Point. A Redshouldered Hawk was seen here in November, roosting and hunting on site; it was now thought to be a local nesting bird. Osprey which nested nearby at Goodluck Point were observed from the tract, and Northern Harrier were seen hunting here in November. Great Blue Heron were observed feeding on the site; the bird did not breed here. Two American Bitterns were observed on a November site visit; these were either migrant or overwintering birds, and were not thought to be local breeders, as there was no suitable breeding habitat (freshwater marsh) for the species present in the area. Savannah Sparrows were found overwintering here. Other species of interest on this site include breeding Clapper Rails and wintering Eastern Meadowlark, a declining breeding species.

#### I. Bay Islands Birds

The bay islands considered for addition to the refuge provide essential nesting habitat for Common Terns, Least Terns and Gull-billed Terns, Skimmers and Piping Plover. Wading bird species feed in the shallows around the islands. Most of these islands are listed in the Service's atlas on coastal waterbird colonies (1990 updated version). The number of nesting tern pairs have declined in recent years but could be enhanced if human disturbance is better controlled.

### 3.3 Current Land Use

Commercial and light industrial business dominate the Route 9 corridor with residential areas bordering most of the wetland sites considered by this proposal. Barnegat Bay and the intracoastal waterway form the eastern boundary.

The proposed acquisition sites are vacant wetlands and wooded areas east of Route 9 (see Ocean County 1987 Existing Land Use Map) and uninhabited islands in the Bay. All areas being considered by this proposal, including the Cedar Run Creek drainage, are designated for "preservation" in the County's Comprehensive Master Plan.



### 3.4 Public Use and Related Management

#### A. General

Many national wildlife refuges are open to a variety of wildlife-oriented public uses. Visitors use refuge exhibits, signs and tours to gain an understanding of wildlife resources; students and teachers use portions of the refuge as outdoor classrooms; many visits are for nature study, walking, photography, and canoeing or to take part in refuge hunting and fishing programs.

Public use is an important aspect of the management program at Forsythe because of the recreational and educational opportunities it affords. Approximately 250,000 visits are made to the refuge each year for varied activities such as wildlife interpretation and observation, education, fishing, clamming, crabbing, waterfowl hunting, archery and gun hunting for deer, trapping, beach activities, and wildlands appreciation. Approximately forty percent (currently 14,000 acres) of the refuge is open to waterfowl hunting and approximately ten percent, the upland and wooded areas, are open to deer hunting. Numerous groups from educational institutions visit the refuge each year to research and to learn about the refuge natural resources.

Table 4 summarizes public use data from the five national wildlife refuges located in New Jersey including Forsythe Refuge. The Barnegat Division has an extensive waterfowl hunting program, with in excess of 4,000 acres being open to this activity.

The major public-use problem is enforcement of rules and regulations at the barrier beach Holgate Unit. Extensive use of this general area by beach buggies, fishermen, beachcombers, hikers, and sunbathers often conflict with tern, skimmer and piping plover colonies, which nest there as well as presenting safety problems among the activities themselves.

On most refuge units, public use is by law a secondary use. Secondary uses are allowed when they are compatible with the primary purpose for which the refuge was established. In the Northeast, most refuges are established for migratory bird or endangered species purposes. Additionally, sufficient funding must be available to develop, operate and maintain the uses.

A use may be determined compatible if it will not materially interfere with or detract from: the purpose(s) of the National Wildlife Refuge System. The legal basis for compatibility is contained in the Refuge recreation Act of 1962 and the National Wildlife Refuge Administration Act of 1966. The Refuge Recreation Act places an additional restriction on recreation not directly related to the primary purpose of the refuge by requiring that sufficient funding be available for the development, operation, and maintenance of the public use.

Compatibility determinations are made on a site-specific basis, often as part of a public use planning process, and document the potential adverse impacts which may occur. Some uses are allowable because management actions can be taken to avoid or minimize adverse impacts, e.g., limiting the number of people allowed in sensitive areas or limiting them to



TABLE 4

## NEW JERSEY - 1991-1992 REFUGE PUBLIC USE DATA SUMMARY

REFUGE	TOTAL ACRES	AREA OPEN Hunting, etc.	AREA OPEN (total uses)	PUBLIC USE (VISITS) Hunt, Fish, etc.	PUBLIC USE (VISITS) (non- consumptive)
Cape May	5,865	Not officially open - 2 of 78 miles of Refuge boundary posted. Refuge to be opened to deer hunting - 1994.			
Great Swamp	7,262	Deer - 6,244	7,262	1,021	186,400
Forsythe (Brigantine)	39,000	Waterfowl 15,500 Deer-85%, 3,600 Fishing 2,000 Trapping 23 units	20,000 +	Hunting 15,000 Fishing 40,000 Commercial Clamming 10,000	185,000
Supwana Meadows	2,875	Waterfowl-165 Deer - 2,150	2,150	633	1,081
Wallkill River	1,086	Not officially open - Approximately 1500 acres to be opened to deer hunting - 1993.			



specific seasons or hours.

## B. Hunting

Hunting under Service policy is recognized as an acceptable, traditional, and legitimate form of wildlife-oriented recreation. Hunting is also used as a wildlife management tool to regulate populations (i.e., deer) to prevent significant damage to refuge habitat and adjacent agricultural crops.

In general the Service has maintained approximately 40% of the Forsythe Refuge lands open to waterfowl hunting. Another 2,500 acres are open to deer hunting on the Refuge.

To open a refuge to hunting is a very formal process. Refuge management initiates this opening process by developing comprehensive hunt plans for the species they propose to hunt, such as waterfowl or deer. The availability of the hunt plan(s) for public review is announced in the Federal Register, and an environmental assessment or impact statement may also be required.

An Environmental Assessment prepared by the Forsythe Refuge Management to address the hunting issue on existing and newly acquired Refuge lands was completed in January 1993.

Legally, lands under Federal (Service) ownership are closed to hunting initially upon purchase until hunt plans are completed and approved by the Director of Fish and Wildlife, Washington, D.C.. Since the refuge is built parcel by parcel from willing sellers, it may be some time before large, manageable contiguous tracts are acquired supporting numbers of deer or waterfowl to justify a hunt. Hunting may continue during this interim period between the Service's purchase and hunt plan approval by the owner/seller simply reserving hunting and fishing rights for a short period of from one to two years until all procedural requirements are fulfilled. Poaching and trespass will continue to be a problem on privately owned lands, as the Service can only enforce and manage those lands under its direct ownership. However, the presence of Service personnel on site in the area could have a beneficial effect in reducing such problems.

Refuge hunt programs are based on three major factors: (a) biological soundness--that is, the species being hunted must produce a harvestable surplus; (b) economic feasibility--funds must be available for the development and administration of a hunting program; and (c) the relationship with other programs and recreational activities (i.e., visitor safety, waterfowl nesting, breeding, etc.). The number of hunting days and hunters may vary depending upon deer herd size or waterfowl species population numbers.

Presently, the Forsythe Refuge provide waterfowl hunting opportunities over a 15 1/2 week season from mid-October through January each year. Snow geese, Canada geese, Brant and ducks are hunted during this period with specific seasons assigned for each.

This is the fifth consecutive year that the Forsythe Refuge has provided a white-tailed deer



hunt. Hunting is by state-issued permit and a permit quota is established depending on the type of hunt (i.e., shotgun, muzzleloader, or bow) and hunting management zones. The Refuge is generally divided into three State Deer Management Zones (DMZ's) due to differing levels of public use on various portions of the Refuge.

A 3-day shotgun permit season, 13-day blackpowder, muzzleloader (musket) season, and 25-day bow season are offered to the sportsman/hunting enthusiasts.

#### C. Trapping

Trapping is one management tool which can be used to help achieve national waterfowl objectives. A trapping program on any of the proposed acquisition areas, will only be initiated upon careful review and development of a plan based on resident furbearer populations, associated prey species, and their habitats. Trapping at Forsythe Refuge helps reduce predation on waterfowl nests, young waterfowl, and other birds. The trapping program also serves to stabilize muskrat populations and provide good habitat interspersed in refuge marshes. In recent years the demand for trapping has been significantly reduced due to falling fur prices. Refuge management has recently established larger individual trapping units in an effort to bring more trapping interest to the area. These units, for example are, 12 units at Barnegat Division have been reduced to 5 units of from 700-1000 acres each.

#### D. Fishing, Clamming, and Crabbing

The Service's national wildlife refuges provide some of America's best fishing in nature's finest settings. Sport fishing is conducted on more than 143 National Wildlife Refuges and represents 16% of all refuge visits. Using Census Bureau figures, the 1987 economic value of fishing uses was estimated at \$107 million, with a projected increase of 2% per year. A fishing program at some of the proposed refuges additions is anticipated. The quality of such a program, however, is directly related to maintenance and enhancement of existing water quality.

Salt water fishing, clamming and crabbing are by far the most popular water-oriented recreations at the Forsythe Refuge. The Holgate Unit is heavily used by surf fishermen to pursue bluefish, striped bass and weakfish. Lily Lake at the Brigantine Division provides freshwater fishing opportunities from its edge or from small boats.

Crabbing opportunities are provided at two or three foot access areas and from boating access throughout the navigable waters of the refuge.

Clamming is done in accordance with state law and is allowed in most riparian areas except Holgate and with some restriction at the AT&T site.



E. Motor Vehicles

Current refuge policy would preclude recreational use of off-road motor bikes, all-terrain vehicles, and snowmobiles on refuge lands. People who wish to use these lands for that purpose will be required to seek their experience elsewhere. The impact of this activity would be transferred to other areas.

Over-the-road vehicles utilize the tidelands within the Holgate Unit from September 1 through March 31. Travel is restricted to the low tide area where compaction of the beach sand allows access while minimizing impacts to the upper beach environment. From April through August or even early October, the beach and dune areas are fenced off to protect nesting of piping plovers and blackskimmers. Beach use is permitted along the ocean front within the state varied riparian zone.

F. Environmental Education and Interpretation

Two interpretive foot trails at the Brigantine Division covering approximately a half mile each in distance offer the visitor the opportunity to become acquainted with the diversity of habitat and plant species and communities.

A motor tour route covering an eight mile loop around the west and east impoundments allows visitors the opportunity to observe and photograph a variety of bird life up close. Two observation towers are also available for viewing wildlife, from September 1 through March 31, the beach and tidelands at the Holgate Unit are open to public use for walking, shell collecting, bird watching, photography, painting and nature study.



## CHAPTER IV

### ENVIRONMENTAL CONSEQUENCES

#### 4.0 Introduction

Environmental consequences represent an assessment of the environmental impacts that would be expected to occur on features of the affected environment (Section III) from implementation of the alternatives (Section II). The environmental consequences of the proposed action include specific impacts on elements of the physical, biological, and human environment. These impacts have been discussed previously in detail in the Final Environmental Assessments for the Reedy Creek Additions (1990) and the Proposed Additions to the Forsythe Refuge (1987) and will not be repeated here.

#### 4.1 Alternative A -- Service Acquisition of 8,000 acres.

The Service will consider both fee acquisition and conservation easements. Fee acquisition, however, would protect the proposed site additions and provide full management control to the Service over each area. The additions would become part of the National Wildlife Refuge System and would be managed to meet wildlife objectives and to protect each area's natural values. Fee title acquisition meets Service goals and objectives for protection and is the alternative that local interest is promoting. The beneficial environmental consequences associated with fee title acquisition is that it will preserve those wetland values listed under the No Action consequences.

Additionally, positive impacts on the local economy should accrue from the expansion of the Forsythe Refuge in these areas. The refuge will eventually employ more people to conduct management, operational and administrative tasks. Opportunities for additional wildlife oriented recreation would continue to attract significant numbers of visitors who benefit the local economy by purchasing goods and services. Additional operational costs and construction costs for a new Barnegat Headquarters and visitor contact station will be necessary. The annual operation and maintenance costs estimate will also increase by a few hundred thousand dollars. A large portion of these expenditures should benefit the local economy. An intangible benefit is that open space will be preserved for the enjoyment of all but primarily those who live closest to the refuge areas.

##### A. Public Use Management

As provided by the National Wildlife Refuge System Administration Act (16 U.S.C. 668dd et. seq.), and reiterated in Service rules contained in 50 CFR Subchapter C, all refuge lands are closed to all forms of public use, including entry, until the Service takes action to permit a use. Exceptions to this include cases of other laws expressly permitting uses at specific refuges or valid and/or retained or reserved landowner rights.



As a matter of law, refuge managers have complete discretion as to what activities to authorize or refuse to authorize on wildlife refuges. If an activity is to be authorized, however, the applicable statutory requirement is that it must be shown to be compatible with the major purpose for which the area was established. The converse is not true. If an application for an activity is to be denied, it need not be shown that the activity would not be compatible.

When a refuge manager considers whether to permit a use on a refuge, he/she considers whether the activity is:

- 1) Consistent with the Refuge System Administration Act of 1966;
- 2) Consistent with the purposes of the Refuge System;
- 3) Consistent with other applicable laws, such as the Endangered Species Act and the Refuge Recreation Act of 1962;
- 4) Consistent with Service policies and regulations;
- 5) Consistent with the goals and objectives of that refuge; and
- 6) Manageable within his/her available budget and staff (applies to recreational uses only).

If the answer to all of the questions above is "yes," a manager may implement a compatible use. Even if a use is compatible, the Service can prohibit any use on a refuge, subject to the jurisdictional exceptions noted previously, regardless of its relationship to the purposes of the refuge. A landowner/seller may reserve the rights to a particular use i.e. hunting, for such time until the public use management plan is developed and approved, by incorporating such reservations into the purchase and sale agreement.

#### B. Impacts on Socioeconomic Resources

Acquisition of these additional wetland tracts will result in a variety of beneficial economic impacts to the town and county. These impacts include: (1) provisions of revenue sharing with the town through the Refuge Revenue Sharing Act, as amended, 1978 (P.L. 95-469); (2) expenditures associated with visitor use; (3) expenditure of a portion of the annual operating budget in the local economy; and (4) possible full- and/or part-time employment opportunities as a result of expanded staff and possible new field office at Reedy Creek.

Some socioeconomic utilization potential categories which may apply to this refuge addition proposal include the following:

##### Nonconsumptive values

Nature study  
Education (environmental studies)  
Photography



Research  
Sightseeing (trails)  
Wetland art  
Literary works  
Historic relevance  
Esthetics

#### Consumptive Values

Sportfishing  
Shellfishing (commercial and sport)  
Aquaculture  
Water supply  
Hunting (residential development will limit opportunity)

#### Societal Values

Open space  
Landscape/heritage values  
Local climate amelioration  
History of science research or educational use  
Vital element to a wetlands system, e.g. finfish nursery habitat, Shellfish relay station  
Supports endangered and threatened fauna  
Has high use or production by waterfowl, marsh and shorebirds, as well as songbirds and a variety of small mammals  
Potential acquisition consideration (by Town, even before Service proposal) as part of open space plan  
Wildlife gene pool maintenance and biodiversity

#### C. Fiscal Impacts - Tax Base and Expenditures

Since the Service is not a tax paying entity, affected municipalities would lose some tax base. However, the Service, unlike state or non-profit organizations, makes payments to county/town governments from a revenue sharing plan provided by the Refuge Revenue Sharing Act of 1935 as amended in 1964 and 1978. Monies for these federal payments to the counties are derived from the nationwide sale of refuge products and privileges such as timber, oil, minerals, and agricultural programs. These funds are distributed on the basis of the formula that provides the highest return for the affected taxing authority:

- Seventy-five cents per acre.
- Twenty-five percent of the net revenue received from the operation of the refuge, or



- Three-fourths of one percent of the appraised value of the property, which is reappraised every five years.

Of the three, the latter formula normally provides the greatest compensation to the town. If the Refuge Revenue Sharing Program is fully funded, and depending on the alternative selected, payments to the town could exceed the present level of revenue generated within the study area.

Property donations such as the bay islands being contemplated by Dover Township would be eligible for Refuge Revenue Sharing and would also benefit by active Service management and oversight. Traditional uses may be preserved as appropriate on and around these islands. Transfer of these islands to the New Jersey Department of Fish, Game and Wildlife would result in the loss of revenue sharing although the wildlife resources would still be protected.

During the past ten years, payments have averaged about 75 percent of full entitlement. Congress is authorized to supplement the fund by direct appropriations in order to reach 100 percent full entitlement. Legislation is being considered by Congress that would automatically bring the annual Revenue Sharing Payment to 100 percent of full entitlement. In Fiscal Year 1991, funding was 80% of entitlement, representing a 9% increase over that of fiscal year 1988. In Fiscal Year 1992, funding reached 90% of entitlement.

Developers often argue that by adding ratables to the local tax base, their proposed development will reduce local property taxes. They neglect to mention the cost to the community to provide services to that development. A catch-22 or circle impact is created when land is developed for housing. Taxes have to be raised to pay for services. It must be realized that the profit to a town for a piece of property is the income received (i.e., taxes) minus the cost of services. Services include schools, garbage removal, water supply, sewage disposal, health and welfare, police, fire protection, roads, utilities, and local administration. Raising taxes has and is forcing lands in New Jersey into the realty marketplace. Approximately 90 cents of the average tax dollar today, nationally, goes for schools. In a report on local tax savings from open space preservation, Goodenough (1965) reported that in 1960 the village of Mamaroneck, New York, approved the construction of a large garden apartment complex on vacant land which resulted in higher taxes for all property owners. The development was said to have paid \$42,415.00 in school taxes, but the Board of Education figures showed a cost of \$107,800.00 to educate the children living in the apartments. Studies in Culpepper County, Virginia, showed that for every \$1.00 for revenue collected from residential land, it costs \$1.25 to provide services to that land (Virginia Wildlife, Feb. 1989). Chances are, this ratio would be even greater in Ocean County and especially for condominium developments and multi-family housing. Agricultural and industrial lands conversely were revenue generators requiring only 19 cents of services for every \$1.00 collected in taxes.



Caputo (1979) has identified five economic benefits associated with open space preservation (i.e., parks, refuges, recreation areas.) First, lands adjacent to public parks or natural areas were found to increase in value faster than the respective municipality average. Property value and appreciation here in the Northeast generally increases 20-30% for residential property immediately adjacent to state or federal wildlife management areas or refuges. The actual percentage increase, however, will vary from town to town and state to state. A survey of fifteen lakes and reservoirs in Pennsylvania for their impacts on local land values (Epp, 1971) showed that the total taxable land value of an area that develops recreational sites will increase over time and will increase more rapidly than comparative areas that do not develop recreational resources. The lakes studied ranged in size from 160 acres in two state parks to over 21,000 acres in the Corps of Engineers Kinzua Reservoir. As property values increase, assessments increase and more property tax revenues are realized.

#### D. Cultural Resources

Private property is not protected by federal archaeological and historic legislation unless federal funds or permits are needed by the landowner. Because of this, archaeological sites on private property are often destroyed by development without any scientific study. If not in good condition or easily adaptable to modern use, historic buildings on private property are also often destroyed, without even photographs to remind future generations of their existence. The result is an incalculable loss to the American public's knowledge and appreciation of their past, as well as a loss of information to scientists and historians working to increase that knowledge and appreciation. In some heavily developing areas, the entire history of 10,000 years of human land use has been obliterated within the past decade.

Acquisition of land with known or potential archaeological or historical sites by the Service provides two major types of protection for these resources: protection from damage by federal activity, and protection from damage by vandalism or theft of material from them (including arrowhead and bottle collecting at archaeological sites).

The National Historic Preservation Act (P.L. 89-665) requires that any actions by a federal agency which may impact archaeological or historical resources be reviewed by the State Historic Preservation Office, and that identified impacts be avoided or mitigated. Service policy is to preserve these resources in the public trust, avoiding impacts wherever possible.

The Archaeological Resource Protection Act provides a strict application and permitting process for scientists wishing to do archaeological studies in federal property, and mandates severe criminal and civil penalties for vandalism or unauthorized collection of material from sites on federal land.



The coastal area of New Jersey and especially Barnegat Bay is rich in cultural resources including both archeological and historic sites. The area has a rich history with considerable evidence of use by prehistoric native people, various historic and modern Indian tribes and early settlers. Prehistoric Indian mounds are present in the study area. The State of New Jersey has identified and mapped these sites and the Service will coordinate any activities with appropriate authorities to ensure the continued protection of these resources.

#### E. Cumulative Impacts

Cumulative impacts which would result from Service acquisition are as follows:

- Long-term protection of important wetlands.
- Protection and enhancement of biological diversity on both a community and ecosystem level.
- Contribution to the long-term protection of waterfowl species and species of special concern that utilize these wetlands.
- Protection of the Barnegat Bay ecosystem.
- Protection of the shellfish relay station area.
- Protection of endangered, threatened and rare species.
- Contribution to the local economy from expenditures relating to the operation and management of the refuge and from refuge visitor expenditures for goods and services obtained in the local area.
- Negative economic impacts resulting from the prohibition or limitation of certain activities on the sites considered by this proposal.

#### 4.2 Alternative B -- No Action

The status quo of the project sites may be maintained in the short-term if the current landowners retain the property. However, if the areas are sold on the open market, it is likely that serious negative environmental consequences could result from No Action over the long-term. Future development around or on the sites will result in degradation of habitat due to non-point source pollution factors and by further isolating the site or area, thereby reducing wildlife use and diversity.



It should be emphasized that wetlands are a valuable resource to society as a whole, and not just user groups such as hunters, fishermen, birders, and boaters that directly benefit from wetlands. Some of the values provided by wetlands (Mitsch and Gosselink, 1986; Sather and Smith, 1984; Office of Technology Assessment, 1984; The Conservation Foundation, 1988) are:

**Endangered and Threatened Species:** A disproportionately high percentage of endangered and threatened species of plant and animals rely on wetlands for their survival.

**Fish and Shellfish:** Some wetlands provide nursery grounds, feeding areas, year-round habitat for fish and shellfish.

**Waterfowl and Other Waterbirds:** Wetlands are probably most often associated with the role they play in providing nesting, migration, and wintering habitat for waterfowl and other waterbirds.

**Water and Air Quality:** Wetlands have the ability to improve the quality of water in an ecosystem by removing toxic materials and inorganic nutrients from water that flows through them. The vegetation associated with wetlands absorbs pollutants from the air and microbes within mud flats produce oxygen. On a global scale, wetlands improve water and air quality.

**Flood Control:** Wetlands influence regional water flow regimes by intercepting storm runoff and storing storm waters, thereby reducing runoff peaks to slower discharges over longer periods of time.

**Storm Abatement:** Coastal wetlands serve as buffers that protect adjacent urban areas from ocean storms.

**Recreation and Education:** Wetlands provide open space and outstanding opportunities for wildlife-oriented recreation and environmental education.

**Aesthetics:** Wetlands are aesthetically appealing. People enjoy wetlands for their natural beauty, wildness, and solitude.

The environmental consequences associated with the No Action Alternative would be the potential impairment or degradation of some or all of the above functional and natural values of the wetlands sites considered by this report.

#### Land Use And Socioeconomic Resource Impacts of No Action

Conversion of existing upland habitat (i.e. Oyster Creek) or wetlands to alternative land uses may be economically beneficial to certain interests. Expanded residential and commercial development would boost the local real estate market, although the present climate is not



conducive to real estate development. Costs of services to such development may offset any gains in tax revenues to the municipalities and probably would increase the annual town operation and maintenance budget needs.

### Cumulative Impacts

Cumulative Impacts which could result from No Action are as follows:

- Degradation or destruction of important wetlands and adjacent upland buffer values.
- Reduction of biological diversity on a community and ecosystem level.
- Contribution to the depletion of our nation's natural resources which, in the long term, could prove costly from an economic and environmental standpoint.
- Contribution to the long-term decline of certain waterfowl and neo-tropical species and other species of special concern which depend on wetland habitat.
- Continuation of present land uses that are beneficial to the local economy in the respective townships and Ocean County.

### 4.3 Alternative C - Less-Than-Fee Protection

If the less-than-fee alternative were implemented, the area would be under Service management control. The areas would be protected by a perpetual non-development easement with all development rights obtained by the Service. Environmental consequences which might result from implementation of this alternative would be similar to the Proposed Alternative A, assuming the easement included development and management rights as described in Section II Alternatives. The total property taxes paid by the landowner might decline as a result of a modification of the potential uses of the property.

### 4.4 Alternative D - Protection by Others

Short-term and long-term protection of the project area(s) using this alternative is unlikely. Other potential acquisition and management entities presently lack the funding and manpower required to acquire, protect, and/or manage the various properties. Therefore, the areas would be subjected to environmental consequences similar to that under No Action (refer to B above).

The New Jersey Department of Fish, Game and Wildlife has requested Dover Township officials to consider the transfer of six sedge islands in upper Barnegat Bay to the state for wildlife resource management purposes. Such a transfer would result in the elimination of Refuge Revenue Sharing monies which would occur under Service ownership. The day-to-day management supervision that could be provided by the Service would also be less.



#### 4.5 Irreversible and Irretrievable Commitments of Resources

The No Action alternative, if implemented, could lead to irreversible and irretrievable commitments of resources. Residential and commercial developments could result in the direct or indirect loss of habitat or the alteration of an area's natural features, negatively impacting plant, animal and cultural resource values while lowering recreational values and aesthetic quality. Since less-than-fee protection (Alternative C) and protection by others (Alternative D) are not viable in the short term, similar commitments of natural resources may result.

The Fish and Wildlife Service fee title acquisition alternative (2.1 Alternative A) would result in prohibition of development on the subject properties. The prohibition of this activity would result in an irretrievable economic loss to certain individuals and businesses in the community who seek to develop these lands.

However, this alternative could also result in an economic gain to certain other sectors of the local economy (e.g. retail, services) due to increased refuge operational and administrative costs and management costs. Visitor expenditures and management of the areas by Service personnel would require an irretrievable commitment of energy resource and time.



## CHAPTER V

### 5.0 CONSULTATION AND COORDINATION

The concept of this acquisition/refuge expansion proposal has been discussed with local interest groups, individual landowners, town and county officials, conservation organizations, state resource agencies, and congressionals. This proposal is a direct result of requests by the above mentioned parties to have the U.S. Fish and Wildlife Service consider the protection of these lands as part of the national wildlife refuge system. The proposal is consistent with Ocean County Open Space Plan, the New Jersey Pine Barrens Management Plan and the Atlantic Coast Joint Venture of the North American Waterfowl Management Plan.

The Service also held a series of public meetings in Lacey and Stafford Townships during October and November 1992 following the release of the Draft Environmental Assessment. Personal contacts, news releases and presentations to elected local, State and Federal officials are other techniques which were used to solicit public involvement with the planning process. The Forsythe Refuge management also held public coordination meetings during February and March 1993 on its annual hunting plan for the refuge. Additional meetings were held with officials from the NJDFG&W and Congressman Jim Saxton to discuss topics of mutual concerns. The purpose of this public involvement was to inform the public and all potentially affected interests of the proposal and to solicit their input to identify effects of the proposed acquisition and evaluate practical alternatives.

Comments were received from many people and organizations during this process. Most of those that responded support the implementation of the proposed acquisition program for the areas identified. Additional land parcels were also recommended for inclusion and were incorporated into this proposal. Due to the nature of the proposal and the extremely large number of landowners within the overall project area(s), it was not possible to contact most landowners directly; however, the Land Protection Plan Appendix B will be distributed to landowners of the tracts identified.

Copies of the Draft Environmental Assessment were sent to all appropriate town, county, State and Federal elected officials and agencies; and all landowners and private organizations and individuals who have expressed an interest. All comments received were considered in preparation of this Final Environmental Assessment and related findings.



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APPENDIX A

FEDERAL AND NEW JERSEY STATE  
LAND USE REGULATIONS







## Listing of Current State and Federal Land Regulations

### Federal Laws and Regulations

The Fish and Wildlife Service, through its Division of Ecological Services, reviews proposals for activities in or affecting navigable waters that are sanctioned, permitted, assisted or conducted by the federal government. These review functions, delegated to the Service by the Secretary of the Interior, are prescribed by the Fish and Wildlife Coordination Act, the National Environmental Policy Act of 1969, the Estuary Protection Act, the Airport and Airway Development Act of 1970, the Watershed Protection and Flood Protection Act, the Endangered Species Act, and various Executive Orders. The following are the most important laws to which the Service review function applies:

#### 1. Rivers and Harbors Act of 1899

Section 10 of this Act declares it unlawful to build in navigable waters of the United States, or to excavate, or fill or in any manner to alter or modify the course, location, condition, or capacity of any navigable water of the United States, unless the activity is approved by the Chief of the Corps of Engineers (COE) and Secretary of the Army. Certain COE permits also require approval by the Environmental Protection Agency (EPA) as a result of the Federal Waters Pollution Control Act of 1972, as amended. Navigable waters are defined in common and case law as any water that is or has been navigable in fact, or is capable of being made navigable through reasonable improvements, including any shoals, falls, rapids, or other interruptions requiring land portage, and which is used or useful in interstate or foreign commerce. The federal jurisdiction on such waters extends throughout their length (including non-navigable tributaries in some decisions) and laterally to the limit of the plane of the ordinary high water, defined on rivers as neither the flood nor lowest flow stage, but the usual high water state, and on tidal waters as the mean high tide line.

#### 2. Federal Water Pollution Control Act of 1972 (FWPCA) as amended by the Clean Water Act of 1977 (CWA)

This Act set up a federal permit system to regulate the discharge of pollutants into waters of the United States. The Act is administered by EPA and proclaimed two goals for the United States: (1) to achieve swimmable, fishable waters wherever attainable by 1983, and (2) to eliminate the discharge of pollutants into navigable waters.

Section 208 of the Act (Water Quality Management) ties together various water pollution control and abatement requirements, including municipal, industrial, and residual waste, run-off, and ground water pollution control. The Act places the responsibility for development and carrying out solutions to these problems with state and local governments. Under Section 208, geographic areas with significant water quality problems are singled out for area-wide planning. EPA provides funding to develop the plan to control all point and non-point source pollution and land use as



it relates to water quality. Although wetland protection can be incorporated into Section 208 management plans, the resulting planning relates primarily to water pollution and water quality. Nothing in the Act would prevent landowners from draining wetlands and growing crops, unless the agricultural practices would result in a water pollution problem. It is too early to determine what the effect of 208 planning will have on wetland preservation efforts.

Section 402 of the Act requires permits from EPA for the discharge of any pollutant into navigable waters. Under this program it is illegal to discharge any unpermitted refuse into any navigable waters of the United States.

Section 404 - The 404 regulatory program, which regulates the discharge of dredged or fill material into waters of the United States, was enacted as part of the 1972 FWPCA and amended during the 1977 CWA reauthorization. The permit program is administered by the Corps of Engineers and EPA. Most types of development or construction in the nation's waters and wetlands involve some discharge of material and thus require a 404 permit. The program is the main federal vehicle for protecting wetland areas, since conversion of wetlands often involves placement of dredged or fill material.

The Corps is the primary agency that administers the program. This agency issues or denies permits, writes program regulations, and conducts most of the enforcement work. The Corps also develops general permits for categories of similar activities with minimal environmental impact. The 404 program is related to the Corps' other regulatory authorities under the River and Harbor Act and the Marine Protection, Research, and Sanctuaries Act.

The Environmental Protection Agency writes the environmental guidelines under 404(b)(1) which are the substantive regulations used to evaluate permit applications. EPA has authority under section 404(c) to "veto" Corps issued permits or predesignate an area as unsuitable for disposal based on a determination of unacceptable impact. EPA is responsible for delegating the program to qualified states in accordance with agency regulations. EPA also has parallel enforcement authority under Section 309 of the Act.

Corps regulations state that "full consideration" must be given to fish and wildlife concerns (both state and federal). In practice, however, the Corps considers fish and wildlife impacts as part of their overall public interest review along with a number of other factors.

### 3. Executive Orders

Executive Orders are issued, periodically, to formulate executive policy and promulgate executive directives to federal agencies on current issues. Such policy directives provide an important source of guidance for federal agency actions. Two pertinent orders were issued on May 24, 1977, by President Carter:



Executive Order 11990, entitled "Protection of Wetlands", reads in part: "Each agency shall provide leadership and shall take action to minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands in carrying out the Agency's responsibilities . . . , " and " . . . each agency, to the extent permitted by law, shall avoid undertaking or providing assistance for new construction located in wetlands unless the head of the agency finds that: (1) there is no practicable alternative to such construction, and (2) the proposed action includes all practicable measures to minimize harm to wetlands which may result from each use."

Executive 11988, entitled "Flood Plain Management" states in part: "Each agency shall provide leadership and shall take action to reduce the risk of flood loss, to minimize the impact of floods on human safety, health, and welfare, and to restore and preserve the natural and beneficial values served by flood plains in carrying out its responsibilities for (1) acquiring, managing, and disposing of federal lands and facilities; . . . and . . . (2) conducting federal activities and programs affecting land use, including but not limited to water and related land resource planning . . . . "

While the intent of the orders is well meaning, inland and coastal wetlands will not be preserved or protected from other-than-federal activities. Further, implementation of Executive Orders lies with each federal agency. There is no mechanism to review or reconsider a federal agency's decision that its project complies with the Executive Orders.

The Service provides technical and management assistance to implement Executive Orders 11990 and 11988.

#### State Laws and Regulations

1. New Jersey Wetlands Act of 1970 (N.J.S.A. 13:94-1 et. seq.)

This Act requires permits, issued by the Division of Coastal Resources, Department of Environmental Protection (DEP), prior to dredging, removing, filling, or otherwise altering or polluting coastal wetlands. Permits are not required for state mosquito control activities or commercial production of salt hay or other agricultural crops. The Wetlands Act also contains provisions which allow the Commissioner of DEP to adopt, amend, modify, or repeal orders regulating, restricting, or prohibiting the dredging, removing, filling, or otherwise altering or polluting of coastal wetlands.

2. Freshwater Wetlands Protection Act (N.J.S.A. 13:9B-1 et. seq.)

This Act, effective on July 1, 1988, makes provisions for the state to assume implementation of the Federal 404 regulatory program from the COE. A permit is required from the Division of Coastal Resources, DEP, prior to any of the following activities in a freshwater wetland: (1) the removal, excavation, disturbance, or dredging of soil, sand, gravel, or aggregate material of any kind; (2) the drainage or disturbance of the



water level or water table; (3) the dumping, discharging, or filling with any materials; (4) the driving of pilings; (5) the placing of obstructions; and (6) the destruction of plant life which would alter the character of freshwater wetlands, including the cutting of trees. The Act addresses the protection of transition areas between marsh and upland habitats to a limited extent.

3. Waterfront Development Statute (N.J.S.A. 12:5-3)

This Statute grants regulatory control over all development within tidal waters below the mean high water level.

4. Coastal Area Facilities Review Act (CAFRA) of 1973 (N.J.S.A. 13:19-1 et seq.)

This Act acknowledges the importance of maintaining the balance of the coastal wetland ecosystem and requires the issuance of permits prior to the development of a wide variety of "coastal facilities". Applicants must submit an Environmental Impact Statement which is reviewed by the public, other DEP divisions, and other state agencies prior to the issuance or denial of a permit by the Director of the Division of Coastal Resources. Housing developments of less than twenty-five units do not require CAFRA permits. Decisions may be appealed to the Commissioner of the DEP or the three-member Coastal Area Review Board.



APPENDIX B  
LAND PROTECTION PLAN

EDWIN B. FORSYTHE NWR EXPANSION PROJECT

OCEAN COUNTY, NEW JERSEY

U.S. DEPARTMENT OF THE INTERIOR  
FISH AND WILDLIFE SERVICE  
300 WESTGATE CENTER DRIVE  
HADLEY, MA 01035-9589  
1994



## LAND PROTECTION PLAN PROPOSED ADDITIONS TO THE EDWIN B. FORSYTHE NATIONAL WILDLIFE REFUGE

### Introduction and Background

The Edwin B. Forsythe National Wildlife Refuge is located on the Atlantic Ocean in Southeastern New Jersey, and extends from Barnegat south to Absecon. The refuge was created in 1984 by combining the former Brigantine and Barnegat National Wildlife Refuges, which are now divisions of Forsythe. Brigantine was established in 1939 under the authority of the Migratory Bird Conservation Act to preserve estuarine habitats important to Atlantic brant (Branta bernicla) and to provide nesting habitat for black ducks (Anas rubripes) and rails (Rallus sp.). Barnegat was established in 1967 under the same authority, with the basic purpose of preserving estuarine feeding and resting habitat for ducks and brant.

This refuge provides the necessary breeding habitat, food, cover, travel corridors and wintering habitat for the survival of those species of waterfowl that utilize the Atlantic Flyway. It is also the first major estuarine area encountered by waterfowl in the United States as they migrate southward from the small glaciated wetlands of the Northeast. These coastal wetlands annually winter approximately 35% of the entire Atlantic Flyway population of American black ducks and 70% of the Flyway's Atlantic brant population.

In March, 1986, a draft Environmental Assessment (EA), proposing the acquisition of 8,930 additional acres for the Barnegat Division was released. Approximately 1,063 acres of potentially buildable land was subsequently removed from his proposal due to the concern of local officials for future tax rates. The final environmental assessment proposing the addition of 9,800 acres to the refuge was issued in March 1987. The bulk of the addition was comprised of valuable black duck habitat, such as coastal salt marshes and bay islands, as well as swamp woods between salt marshes and developed areas.

During this same time period the Ocean County Izaak Walton League began a preservation campaign for the Reedy Creek wetlands and surrounding woods. In December of 1988, U.S. Congressman Frank Pallone wrote the Service's Washington Office designation of the Reedy Creek area as a priority wetland under the Emergency Wetlands Resources Act. Several environmental groups also wrote the Region 5 Office, in March 1989, recommending that the Herring Point/Reedy Creek ecosystem be added to the Edwin B. Forsythe Refuge. Subsequently a draft environmental assessment proposing the addition of 2,400 acres was released for public review on July 23, 1990. The Final Environmental Assessment on the Reedy Creek Additions was issued November 1990 and the Regional Director signed the decision documents approving refuge establishment on December 27, 1990.

During the public review period for the Final EA on the Proposed Reedy Creek additions to Forsythe Refuge, the Ocean County Chapter of the Izaak Walton League and the Stouts Creek Land and Home Owners Association wrote the Service requesting a further expansion of the



groups and officials identifying specific sites (described in Chapter interest groups and officials identifying specific sites (described in Chapter II Alternatives of this final EA), recommending their inclusion as part of the Forsythe Refuge.

### Purpose and Need

The purpose of this Land Protection Plan (LPP) is to provide landowners with a brief document that describes the Service's potential acquisition methods, policy and priorities within the proposed acquisition additions.

As the Federal agency responsible for protection and management of the nation's wildlife, the Service is responsible for the welfare of migratory birds, species listed as Threatened and Endangered, anadromous fishes, certain marine mammals, and other wildlife. The National Wildlife Refuge System is a network of lands and waters managed specifically for the protection of wildlife and wildlife habitat, as part of a nationwide system to ensure the conservation of biological diversity across the country. Forsythe National Wildlife Refuge (NWR) was established to protect habitat for migratory birds as authorized by the Migratory Bird Conservation Act (45 Stat. 1222).

The northern end of the Forsythe Refuge is approximately 65 miles south of New York City. Residential and commercial development pressure, though somewhat abated from its rampant pace at the end of the last decade, shows no sign of reversal. Marsh destruction has been reduced by the passage of the New Jersey Wetlands Act of 1970 and the State's assertion of its riparian claim. There is, however, a renewed assault by development on marginal areas as wetland protection legislation is being challenged, and manpower constraints make enforcement ineffective.

Wetland loss is a major factor in the continued decline of the population of certain waterfowl species, especially black duck. This acquisition project proposal will support the North American Waterfowl Management Plan (NAWMP) by protecting migration and breeding habitat for black ducks and feeding areas in the Bay for various sea duck species. The proposed action will also preserve habitat essential to the survival and recovery of endangered and threatened species.

### Land Acquisition Policy and Procedures.

The Service's established policy is to work with willing sellers, within an approved acquisition boundary, as funds become available. The Service will continue to operate under this long-standing policy, which is supported by our land acquisition record. The Service's intent is not to pressure landowners into seeking, but to protect the unique resource of an area over the long term, as land from willing sellers becomes available.

Appraisals are conducted by Service or contract appraisers, and meet Federal as well as professional standards. The Service is required by law to appraise properties at fair market value, based on comparable sales of similar types of properties. Once appraisals have been made, the Service can negotiate with landowners to acquire interest in lands.



The acquisition area boundary is based upon the biological importance of key habitats. It merely gives the Service approval to negotiate with any interested landowners, and already in place, the Service has the opportunity to react more quickly if these important lands become available. Lands within the acquisition boundary do not become part of Forsythe National Wildlife Refuge unless sold or donated to the Service.

The Service's land acquisition policy and record of acquisitions for the most recent 10-year period is attached as Appendix C - Land Protection Policy and Recent Actions.

- (a) **Eminent Domain.** The U.S. Fish and Wildlife Service, like many other Federal agencies, has the power of eminent domain, or land condemnation. This power flows from the Constitution and General Condemnation Act of 1888 (40 United States Code 257), and can be used to acquire lands and interests in lands for the public good. However, this power is seldom used by the Service. Between 1978 and 1988, only 29 of the 6,955 ownerships acquired nationwide were acquired through condemnation. This is less than one-half of one percent of the total. It also includes "willing" condemnations to clear land title or to settle a price critical for endangered species that are in peril due to pending habitat loss.

It is the policy of the Service to acquire lands for national wildlife refuges from willing sellers at the appraised market price. The Service recognizes the long-term social impacts of using eminent domain, and strives to avoid the use of condemnation.

- (b) **Landowner Rights within an established refuge.** Service control of access, land use practices, water management practices, hunting, fishing, and general use within the established Refuge boundary is limited only to those lands in which the Service has acquired an interest. Any landowners within the proposed refuge boundary, even though land surrounding or adjacent to them has been purchased by the Service, retain all the rights, privileges, and responsibilities of private land ownership, including the right to access, hunting, vehicle use, control of trespass, and the right to sell to any party.

## Methods

Methods to be used by the Service to accomplish protection for wildlife resource areas identified in this LPP include Fee Acquisition, Conservation Easements, acceptance of Donations, and Cooperative Management Agreements. The Service's preferred method for each tract is listed in Appendix A.

The Service's preferred method of protection is to purchase the lands in fee from willing sellers, as described earlier under Land Acquisition Policy. The Service will buy these lands from interested owner, either now or in the future, as funding permits. Fee Title or outright ownership provides the maximum management control.

A landowner may also choose to sell lands to the Service in fee and retain the right to



occupancy of an existing residence, referred to as a "life-use reservation". Such a reservation would be for the occupants at the time of acquisition, would be non-transferable, and can be made for the reservers lifetime or a specific term. The appraised value of the buildings and land would be discounted at the rate of one percent per year for the term of the reservation. For the purposes of discounting, the term will be the life expectancy of the youngest occupant in accordance with actuary tables published by the Department of Health, Education and Welfare. The occupant would be responsible for upkeep and maintenance of the reserved premises. The Service would own the land and make revenue-sharing payments.

For those tracts listed as Easement, the method used would involve purchase of certain interests in the property from willing landowners, as described earlier under Land Acquisition Policy. This would result in conservation easement protection. The intent of the easement would be to preserve and protect the significant wildlife resource values attributed to the property and its environs, by ensuring wildlife-compatible uses of the forested, open, and wetlands within the approved areas.

The Service would purchase development rights, mining rights, and possibly negotiate restrictions on such things as commercial use, forestry and access. The grantor (landowner granting the easement) would retain the right to own, use and convey the protected property subject to the terms of the agreed-upon easement. Except as may be expressly provided in the easement, the grantor would retain all responsibilities as bear all costs and liabilities related to the ownership, operation, maintenance, and taxation with respect to the protected property. The actual extent and nature of rights that the Service would be interested in buying would have to be determined on a case-by-case basis. This would need to be negotiated with individual landowners, and may vary depending on the current extent of development, nature of wildlife activities in the immediate vicinity, needs of the landowner, and possibly configuration with no further subdivision. The Service would strive to ensure traditional public access. The property would be used for wildlife habitat and other limited uses such as forestry and agriculture with the intent of enhancing wildlife habitat.

The Service will accept donations of either lands or easement agreements within the approved areas.

### Acquisition Alternatives and Funding Sources

Potential acquisition methods within these proposal areas would include fee title purchases and purchase of conservation easements using Migratory Bird Conservation Fund and/or Land and Water Conservation Fund monies and donations. In acquiring lands for habitat protection, the Service's land acquisition policy is to obtain the minimum interest necessary to satisfy refuge objectives. Conservation easements can be used in this context when they can be shown to be a cost effective method of protection. In general, any conservation easement must preclude destruction or degradation of habitat and allow uses of the area to be managed for the benefit of wildlife. Donations of easements prohibiting habitat destruction would also be appropriate.



Service acquisition projects are funded through two dedicated funding sources, the Land and Water Conservation Fund and the Migratory Bird Conservation Fund.. The Migratory Bird Conservation Fund is funded by the sale of duck stamps. Receipts from the sale of the stamps are set aside in a special Treasury account, known as the Migratory Bird Conservation Fund, and are appropriated to the Secretary of the Interior for the acquisition of migratory bird refuges under the provisions of the Migratory Bird Conservation Act. Since 1961, Congress has provided additional funding to this account. In 1986, Congress again authorized additional revenue for the Migratory Bird Conservation Fund by directing that 70% of entrance fees collected at various refuges and sales of Golden Eagle Age passports, along with import duties collected on arms and ammunition, be used for acquisition.

The Land and Water Conservation Fund is funded by certain user fees, proceeds from the disposal of surplus federal property, and the federal motor boat fuels tax. Amendments in 1968 and 1970 authorized funds to be supplemented by unappropriated Treasury funds and from oil and gas lease revenues on the Outer Continental Shelf. Approximately 90% of Land and Water Conservation monies now come from Outer Continental Shelf oil and gas lease revenues. The federal government receives 40% of this fund for the "acquisition and development of certain lands."

An alternative to the Land and Water Conservation Fund and the Migratory Bird Conservation Fund is the use of donation. Donations of conservation easement prohibiting habitat destruction and fee title interest will be encouraged.

### Socio-Economic Impacts

In relay term, implementation of the proposed action will provide increased land and water areas and opportunities for public wildlife oriented recreational uses. Hiking, birding, nature observation and photography, hunting, trapping, fishing, and shell fishing are the activities currently provided at the Forsythe NWR. Each of the proposed areas will be evaluated individually by the refuge manager and Regional Office support staff to determine what public activities are most appropriate.

The Service is responsible under a variety of laws and regulations, including the Archaeological Resources Protection Act of 1979 and the National Historic Preservation Act of 1966, as amended, to protect any historic and archaeological resources, including cemeteries within acquired areas. Service policy is to preserve these resources in the public trust.

Although lands acquired by the Service are removed from the tax rolls, the county, township to other local unit of government receives an annual revenue sharing payment in lieu of taxes, under provisions of the Refuge Revenue Sharing Act, as amended (Public Law 95-469, 1978). The revenue shared with the towns in this case consists of net income from the sale of products or privileges on refuge lands nationwide. For any lands that the Service acquires within the approved acquisition area, a payment based on 3/4 of 1% of the market value of those lands will be made annually to the corresponding town. This payment was once



designated to be used for roads and schools, but as of 1978 can be used for any governmental purpose. These annual payments from the Refuge Revenue Sharing Fund will minimize the impact on the local tax base.

There will be no impacts to transportation rules or utilities within the project areas considered by this proposed action. There is no impact to agricultural lands or production and there will be no dislocation of any person or family.

### Resource Protection Alternatives

The protection alternatives considered in developing the preferred action include:

- (A) Service Fee Title acquisition (both minimum and maximum versions);
- (B) No action;
- (C) Non-fee protection;
- (D) Acquisition/Management by others

The land protection alternatives are described in detail in the Final EA, Chapter II.

### Land Acquisition Status

Land acquisition is an active and continuing process at the Forsythe Refuge. Efforts are directed at receiving inholdings from willing sellers as well as contiguous parcels outside of the refuge boundary. Of the 50,347 acres approved for acquisition approximately 74% or 38,500 acres have been acquired to date.

### Priorities

All of the areas or tracts considered in this proposal have been assigned a priority based on wildlife resource values, degree of threat, management potential, size and habitat diversity, and willing-seller status.

The Service reserves the right to flexibility in listing priorities, since a number of factors influence acquisition priority. These include the availability of funding, the type of funding available, and changing threats. In addition, the Service must remain flexible with respect to acquisition methods and priorities in order to meet the needs of individual landowners.

#### A. Priority 1 Lands

- Stouts Creek and Murray Grove
- Cedar Run Creek
- Waterford and Deer Lake Heights Development Area(s)
- Forked River Annex or Airport site (adjacent to State Game Farm)
- Lighthouse Camp Site
- Oceangate/Goodluck Pt. Complex
- Middle Branch of Forked River



These tracts contain forested wetlands, uplands, and critical edge habitat which provide for habitat diversity will be given the highest priority for acquisition. Existing lands and regulations may not adequately protect these areas from alteration or additional development. The edge where upland and wetland communities meet provide food, cover, breeding habitat, and travel corridors for residential migratory wildlife. These "priority 1" parcels would be acquired by using a combination of fee title or conservation easements.

#### B. Priority 2 Lands

The acquisition of these parcels, either concurrently with the purchase of Priority 1 Lands, or shortly thereafter will enable the Service to assemble a manageable unit that can be protected and managed for wildlife and public use benefits. Many of the tracts are coastal marshes which serve as natural filters, maintaining water quality and the general integrity of the marsh and bay ecosystem. Although these wetlands are somewhat protected under current laws, losses or alterations still occur each year.

Sloop Creek  
Clamming Creek  
Maple Creek  
Cedar Creek/Lanoka Harbor  
Sands Point Harbor  
Liberty Harbor  
Barnegat Beach Inland site

#### C. Priority 3 Lands

These parcels are either already protected as in the case of the Game Farm, could involve donations (i.e. bay islands) or may be better suited for county ownership and public use opportunities as with Tilton Point and Oyster Creek. These lands should be protected for their wildlife values but the Service has determined that in the case of Tilton Pt. and Oyster Creek it would be preferable to have the county own and manage these areas. The inclusion herein however, gives the Service the opportunity to act on their protection should the parcels come under threat.

Tilton Point - Cattus Island Area  
Oyster Creek (opposite Power Station )  
State Game Farm Area ( $\pm$  350 acres)  
Bay Islands - upper Barnegat Bay mainly

#### COORDINATION

Throughout the planning of the Forsythe Refuge Expansion Project, the Service has communicated with a large number of diverse publics that have an interest in the proposal. These included town and county officials and boards,, state senators, assemblymen, congressional representatives, individual landowners, the news media and private groups and organizations.



The land protection alternatives were presented to the public through a Draft Environmental Assessment (EA) released in September 1992. Public meetings were held October 5 and 20, and November 5, 1992 to review the draft EA. A review period of approximately 90 days was provided during which written comments were accepted. The issues and concerns identified during the review process was addressed in written correspondence and several meetings held by Regional Office representatives and Refuge Management with special interest groups.

#### SUMMARY OF PROPOSED ACTION

The Service has designated the lands identified in Figures 1, 2, and 3 for Approved Acquisition Areas. Upon completion of the review period of this Final EA and subsequent approval, this agency will have the authority to acquire lands or interests in lands (easements, management agreements, life and term use reservations) as may be negotiated with interested landowners within these approved areas. Figures 1, 2, 3, and Appendix B are intended to provide information to landowners, including location of tracts relative to the approved boundary, corresponding tax map information, acquisition method preferred by the Service and acquisition priority.



EDWIN B. FORSYTHE NWR ADDITIONS

APPENDIX B - TRACT LISTING

<u>Owner</u>	<u>Map</u>	<u>Block/Lot</u>	<u>Acres</u>	<u>Full/Partial</u>	<u>Method</u>	<u>Priority</u>
<u>TILTON POINT AND BAYVIEW HEIGHTS, Dover Township</u>						
Ocean County	51	444/71-74	52.79	reported to be part of Cattus Island		
Various (south of Cattus Is.)	53	444/85-146	227	County would like to purchase. Dover Township owns Lots 101-102. Conservation easement covers Lot 155. FWS gives low priority.		
<u>GOOD LUCK POINT AND OCEAN GATE AREA, Berkely, Township</u>						
Lifetime Homes		1108/1	29.90	Full	Fee	Priority 1 Acquisition Area
		1108/1.02	46.97			
Lifetime Homes		1108/7	13.35	Full	Fee	
AT&T		1206/1A	50.98	Full	Fee	
Haus, Lahann, Hill		"/ 1	10.50	Full	Fee	
Lifetime Homes		"/3	165.05	Full	Fee	
B.L. Klass		1207/1	16.34	Full	Fee	
AT&T		1207/2	167.14	Full	Fee	
Lifetime Homes		1218/13	39.82	Full	Fee	
Town		1219/1	5.00	Full	Donation	
Lifetime/BayPt.		1265/5	9.46	Full	Fee	
Lifetime/BayPt.		1267/1	31.38	Full	Fee	



GOOD LUCK POINT AND OCEAN GATE continued

W&S Freiler	1299/2&2B	15.87
Major/Action Land	1299/2A	5.30
David Veeder	1300/1	17.11
Silver Co. Intcst	1401/46	62.90
Unknown	1541-A2/16	2.00
Riparian	(16-R)	8.20
Unknown	1604/1	9.57
Unknown	1604/2	1.60
Bel Air Park	1604/3	49.82
Glen Cove	1604/5	23.90
Anker Realty(?)	1661/1	7.42
Madson Corp	1666/28	13.02
Ocean County	1666/29	7.15

Priority 1 Acquisition Area

CEDAR CREEK POINT AND LANOKA HARBOR, Lacey Township

Laurel Cove Inc. Map 52	961/1	21.54	Full	Fee
Tom and Judy King	/2	19.0		
Laurel Cove, Inc.	/3	10.46		
Geo. Whittle	/4&5	73.54		
Lacey Township	/6	6.46	Full	Donation
Lacey Township	/7	5.05	Full	Donation
Geo. Whittle	/8	6.14		
E. Hart	/9	4.93		
Geo. Whittle	/10	4.93		
Geo. Whittle	/11	5.39		

Priority 2 Acquisition Area



STOUTS CREEK AND MURRAY GROVE AREA, Lacey Township

Ernest Keer, Map 38	520/4	97.92	Full Fee	1
Universalist General Convention, Map 38&39	"/8	207.22	Full Fee	1
O&E Jones	"/16	91.22	ALL FULL	
NJ Waterfowlers Assoc.	"/19	13.50	PURCHASE	
NJ Waterfowlers	"/20	14.50	FEE TITLE	
D & K Guss	"/21	10.28		
R & L King	"/23	11.46	TOP PRIORITY	
" "	"/24	21.50		
NJ Waterfowlers	"/26	13.70		
F&F Rod and Gun Club	"/26	6.90		
E. Keer	630/4	97.92	(see 520/4 on Map 38 above)	
Bob Lang, Jr.	"/8	240.40		
O&E Jones	"/16	(see above)	ALL	
F & A Porcellini	"/17	46	Priority 1	
A. Taylor	"/18	31.7		

SUNRISE BEACH AND FORKED RIVER AREA (STATE GAME FARM), Lacey

Sunrise Pointe, LP Map 29	390/2-6	40.23	Priority 2
AT&T, Map 24	315/37	377	Priority 1

OYSTER CREEK AREA, Lacey

NJ Central Power and Light Company Map 29	100/2-16	206	Priority 2 Area Full Fee or Easement Will defer to County
NJ Central Power " "	100/20 100/20.01	253 2.58 (middle of Lot 20)	
New Jersey, Div. Fish, Game and Wildlife		350 surrounding game farm	Priority 3



MIDDLE BRANCH OF FORKED RIVER, Lacey

Lawrence Beach, Co. Map 53	1002/4	28.81	Full	Fee
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E.H. Finninger	"/5	331		
"	"/6	68.22		

Map 54	1024/4	92.87		
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Alan Baker	"/11	16.50		
"	"/12	8.49		
"	"/13	3.62		
" et al	"/14	26.30		
E. Finninger	"/15	35.49		
Alan Baker	"/16	60.21		
Hovsons Inc.	"/18.01	54.34		
Lacey Township	"/18.02	4.49	Full	Donation

PRIORITY 1 Acquisition Area

(Block 1024.15, Lot 43 - Pheasant Run Homeowners Association, common open space omitted from boundary)

SANDS POINT HARBOR, Ocean Township (Maps 12, 13 and 14)

James Mackie	95.01/1.02	36.5		
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J&R Roofing	"/1.01	17.5		
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James Mackie	88/3.01	47.60		
"	/3.03	5.91		
"	/3.04	100 x 150 Lot		
"	/3.05	16.03		

SueAnna Enterprises	/4.01	28.8		
"		29.5		

Priority 2 Area

BARNEGATE BEACH, Ocean

Dr. Moneer Hanna, Map 23	220/3	34.80		
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"		221/11.01	105.5	
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Priority 2 Area



LIGHTHOUSE TRACT AREA, Ocean (Map 26)

House/Developed	241/14	6.07	Omitted		
Marina	241/16.01	22	Omitted		
Southland Holdings	241/16.02	15			
NY Assoc. for Blind	241/16.03	32.4	Full	Fee	Top
Southland Holdings	/15	15.79			
House/Developed	/17.01 and 17.02		Omitted		
NY Assoc. Blind	/18	58.51	Full	Fee	Top
Bowker Estate	/19	95.85	Full	Fee	Top

LAKE MANAHAWKIN AREA, Stafford Township

Two areas - between Rt. 72, Garden State Parkway and Levis Road known as the Waterford Development and the wedged-shaped area between Levis Rd., Old Manahawkin-Cedar Bridge Road and Littleworth Mill Road, known as the Deer Lake Heights Development Project.

Priority 1 (see attached lot and block breakdown)

CEDAR RUN CREEK AREA, Stafford

Block 124, Lots 59 and 59A currently owned by the Commerce Bank will be given top priority. All other willing sellers within the designated site will be given consideration on a case-by-case and first come basis.

Priority 1 Acquisition Area

Block 124, Lots 60-62, 67, 69, 70-73, 75, 78, 78.01, 80-84, 103-114, 114.01, 116, 127  
Block 127, Lot 2



Tilton Point Natural Area, Dover Township, Ocean County, NJ

	<u>Acreage</u>	<u>Ownership</u>
Block 444, Lot 79	9.58	
Lot 80	35.01	Applegate, Lyle
Lot 81	2.93	
Lot 82	11.72	Applegate, Lyle
Lot 83	68.43	
Lot 84	1.22	Kessler, Jules & Larry
Lot 85	42.25	Kessler, Harry
Lot 86	3.28	Kessler, Jules & Larry
Lot 87	2.65	Kessler, Harry
Lot 88	2.30	Kessler, Harry
Lot 89	2.24	Citta, Joseph A.
Lot 90	3.49	Clayton, Raymond et.al.
Lot 91	17.00	Zaun, Mathias et.al.
Lot 92	16.00	Domotor, Olga
Lot 93	10.95	Kessler, Jules & Larry
Lot 94	4.50	Kessler, Jules et. al.
Lot 95	37.60	Kessler, Harry
Lot 96	4.50	Kessler, Jules et. al.
Lot 97	22.28	Kessler, Harry
Lot 98	14.62	
Lot 99	65.76	Kessler, Jules et. al.
Lot 100	16.70	Kessler, Harry
Lot 143	1.00	Ventura, Anthony
Lot 144	2.30	Clayton, Elsie
Lot 145	2.30	Girtain, Edgar & Enid
Lot 145.01	.50	" " "
Lot 146	2.49	Clayton, Raymond & Eliz.
Lot 152	8.00	Applegate, John (Est. of Haines)
<hr/>		
Total Acres	411.60	



**FORKED RIVER NATURAL AREA**  
**Lacey Township, Ocean County, NJ**

**AIRPORT/ANNEX AREA**

	<u>Acreage</u>	<u>Ownership</u>
Block 285, Lot 66	.86	
Lot 67	.78	
Lot 68	.45	
Lot 69	2.53	
Lot 70	2.36	
Lot 71	1.80	
Block 287, Lot 1	3.506	Yoder, Wm & Mary
Lot 1.01	3.81	Yoder, John & Nancy
Lot 2	3.97	Lepley, Scott & Sue
Lot 2.07	4.07	Mann, Desmond
Lot 2.06	3.836	Porter, David & Rebecca
Block 291, Lot 1	3.15	Pugliese Realty
Lot 2	9.95	" "
Lot 3	4.66	" "
Lot 4	10.34	" "
Lot 4.02	3.68	Enoch, Harry & Martin
Lot 4.03	8.22	Southwinds Enterprises?
Lot 5	52.11	Pugliese Realty
Block 292, Lot 1	2.62 (Swamp)	Pugliese Realty
Block 315, Lot 33	7.19	Giaconelli, C.
Lot 35	.32	Innocenzi, Louis
Lot 36	5.92	" "
Lot 37	376.79	A T & T
<hr/>		
Total Acres	512.90	



WATERFORD DEVELOPMENT  
STAFFORD TOWNSHIP  
OCEAN COUNTY, NEW JERSEY

LOT AND BLOCK BREAKDOWN

<u>BLOCK</u>	<u>LOTS</u>
53	1, 2, 3, 4, 5 , 6, 7, 8
54	8, 9, 20
67	5, 6, 11
68	1
69	1, 2
Total Acreage by Tax Map	336.22+



BAY ISLANDS

Middle Sedge Island - Lots 3, 6, 7 and 8 (73.29 acres) are owned by Dover Township. Lots 1,2 and 5 (12.51) are privately owned.

Little Sedge Island - (55 acres). Lots 3,6,7 and 8 are owned by Dover Township; Lots 1,2 and 4 owned by Joe and Wallace McDermott; Lot 5 by Otis Strickland.

Marsh Elder Island - Owned by Dover Township (31.17 acres).

N.W. Point Island - (18.45 acres). Lots 1,2 and 4 owned by the Cormorant Island Association, Inc. and Lot 3 owned by Dover Township.

Stooling Point Island - (18 acres). Owned by Richard Killick et al.

Mike Island - (5 acres). Owned by the Ortley Company Limited.

Harbor Island - (81 acres). Ortley Company Limited.

Two other small islands lying in Ortley Cove and near Muscrat Creek area are owned by the Township of Dover Block 1073 and 1072.

NOTE: The Town of Dover has approved a resolution to donate or transfer ownership of their islands to the U. S. Fish and Wildlife Service. Recently, the New Jersey Division of Fish, Game and Wildlife has notified the Township of its desire to have the islands transferred to it for wildlife management purposes.



## APPENDIX C - LAND PROTECTION POLICY AND RECENT ACTIONS

### LAND PROTECTION POLICY FOR THE FISH AND WILDLIFE SERVICE

U.S. FISH AND WILDLIFE SERVICE



### A PROFILE OF LAND PROTECTION ACTIONS

BY THE

FISH AND WILDLIFE SERVICE

Prepared in the Division of Realty

Fish and Wildlife Service

U.S. Department of the Interior

Washington, DC 20240

1992

The Fish and Wildlife Service (Service) acquires lands and/or interests in lands, such as easements or leases, consistent with legislation or other Congressional guidelines and Executive Orders, for the conservation of fish and wildlife and to provide wildlife-oriented public use for educational and recreational purposes. These lands include national wildlife refuges, national fish hatcheries, research facilities and other areas.

The Service land protection policy is to acquire land only when other protective means, such as when zoning or regulation to achieve program goals are not appropriate, available or effective. When lands are to be acquired, the minimum interest necessary to reach management objectives is to be acquired or retained. When the Service must acquire land, it acquires fee title (control of all property rights) only if control of lesser property interests through easements or leases will not achieve objectives.

If fee title is required, full consideration will be given to granting of extended use reservations, entering into exchanges, or other alternatives that will lessen the impact on the owner and the community.

Funding for acquisitions comes from receipts, such as the sale of Federal Duck Stamps, entrance fees to certain National Wildlife Refuges, import taxes on arms and ammunitions and from appropriations under the Land and Water Conservation Fund Act.



## CONDEMNATION POLICY

The Service, like all other Federal agencies, has been given the power of eminent domain, which allows the use of condemnation to acquire lands and interests in lands for the public good. This power, however, is seldom used. The Service usually acquires land from willing sellers and is not often compelled to buy specific habitats within a rigid timeframe.

Service policy is to acquire land through condemnation only in order to:

- \* determine the legal owner (clear title)
- \* settle a difference of opinion of value
- \* prevent uses which would cause irreparable damage to the resources for which the unit (refuge, etc.) was established.

**IN ALL CASES**, whether or not condemnation is necessary, the Service is required by law to offer not less than fair market value as determined by an approved appraisal, using professional standards and Federal requirements, i.e., 1973 Uniform Appraisal Standards for Federal Land Acquisition, Uniform Relocation Assistance and Real Property Acquisition for Federal and Federally-Assisted Programs (Uniform Act of 1970 or P.L. 91-646) and Financial Institutions Reform, Recovery and Enforcement Act of 1989 (FIRREA or P.L. 101-73).

## FREQUENCY OF FISH AND WILDLIFE SERVICE CONDEMNATION ACTIONS

Condemnation has been used sparingly throughout the Service's land acquisition history. The Service recognizes the possible social and economic impacts of acquiring private property by exercising the right of eminent domain, so it does its utmost to avoid using this approach.

In recent years, this has become increasingly true as greater emphasis has been placed on the willing seller policy. The following table shows that over the past ten years (1981-1991), less than 1.5 percent of the acres were obtained through court action, while less than half of 1 percent of ownerships were acquired through the use of condemnation.





**ACQUISITIONS BETWEEN  
1981 AND 1991**

Year	Total Purchased		Condemnations	
	Ownerships	Acres	Ownerships	Acres
1981	425	45,551	-	-
1982	524	46,639	-	-
1983	410	45,186	-	-
1984	459	194,237	-	-
1985	1,199	133,065	6*	3,022*
1986	482	64,275	2	571
1987	446	84,029	1	124
1988	700	142,804	1	15,058
1989	613	131,986	-	-
1990	605	213,533	-	-
1991	727	235,727	-	-
<b>Total</b>	<b>6,590</b>	<b>1,337,032</b>	<b>10</b>	<b>18,775</b>

\* Does not include one section totalling 350 owners (615 lots - 313 acres). This is an unusual situation where the legislation authorizing the area directed purchase by condemnation, if necessary, of a recreation subdivision threatening a seabird island.

**SUMMARY OF SERVICE LANDS  
ACQUIRED AS OF  
SEPTEMBER 30, 1991**

503\* National Wildlife Refuges  
166 Waterfowl Production Area  
51 Coordination Areas  
5 Wildlife Research Areas  
35 Administrative Sites  
82 National Fish Hatcheries  
18 Fish Research Stations

Acres Purchased	
Fee	3,520,342
Agreement, Easement, or Lease	2,247,241
Donation of Gift	610,465
Acquired by Other Federal Agency	2,347,345
Reserved from Public Domain	<u>82,051,118</u>
Grand Total of Service Acreage	90,776,511
* Includes 31 Farmers Home Interest Units	

**For further information contact:**

Division of Realty  
U.S. Fish and Wildlife Service  
Department of the Interior  
Mail Stop 622-ArlSq  
1849 C Street, N.W.  
Washington, D.C. 20240

Phone (703)358-1713